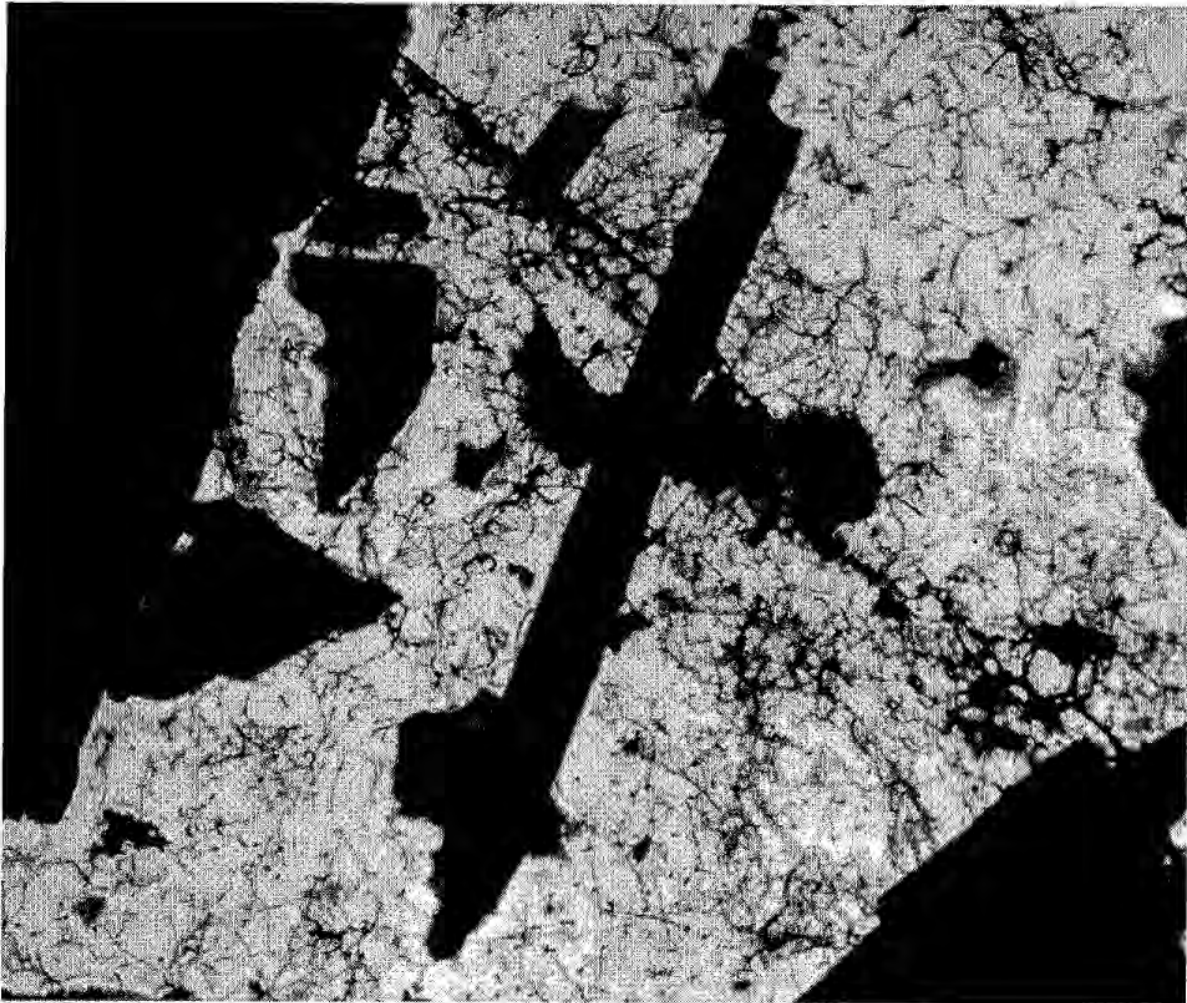


Exhibit 67-L



Sample 20180061-21D Talc (GO G3) - Morphology

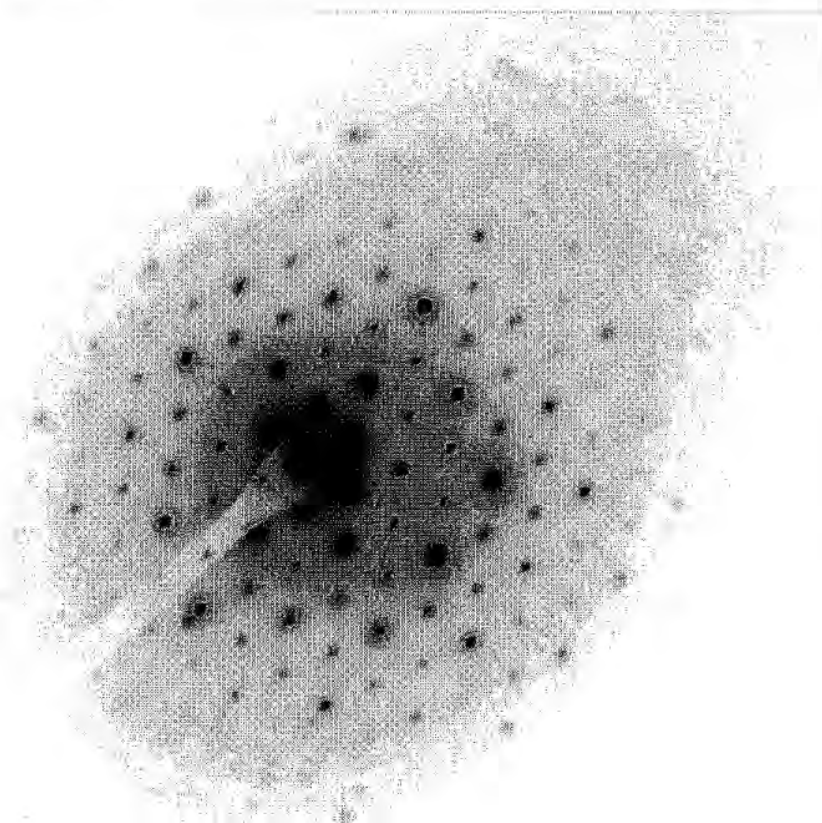


StS-14 Full Quant_001
Talc
GO-G3
Microscopist: LWP

2 μ m
HV=100kV
Direct Mag: 4000 x
J3 Resources, Inc.

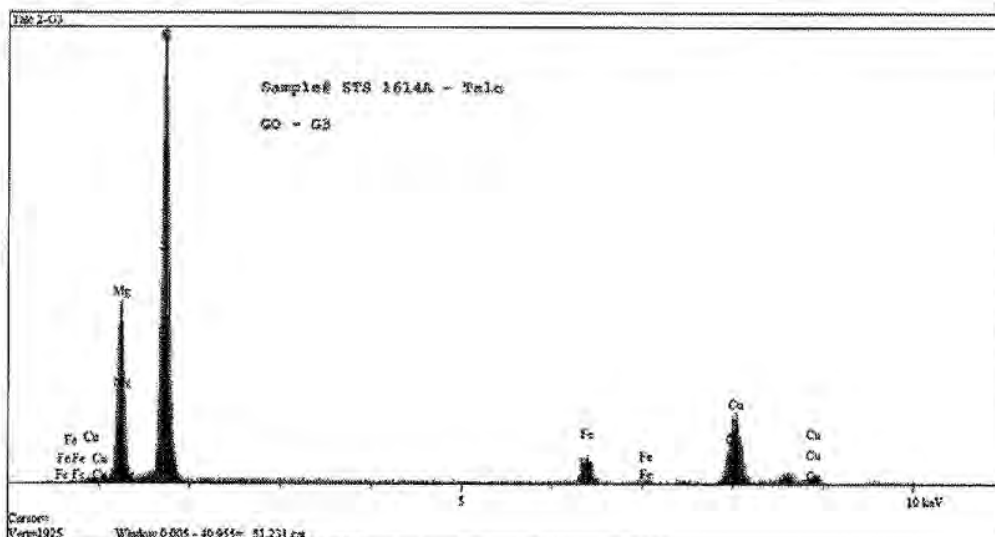


Sample 20180061-21D Talc (GO G3) - Diffraction Pattern and EDS



STS 14 Full Quant_002
Talc - SAED
GO G3
Microscopist LWP

0.211 Å
HV: 100kV
Cam Len: 0.0000 m
J3 Resources, Inc.

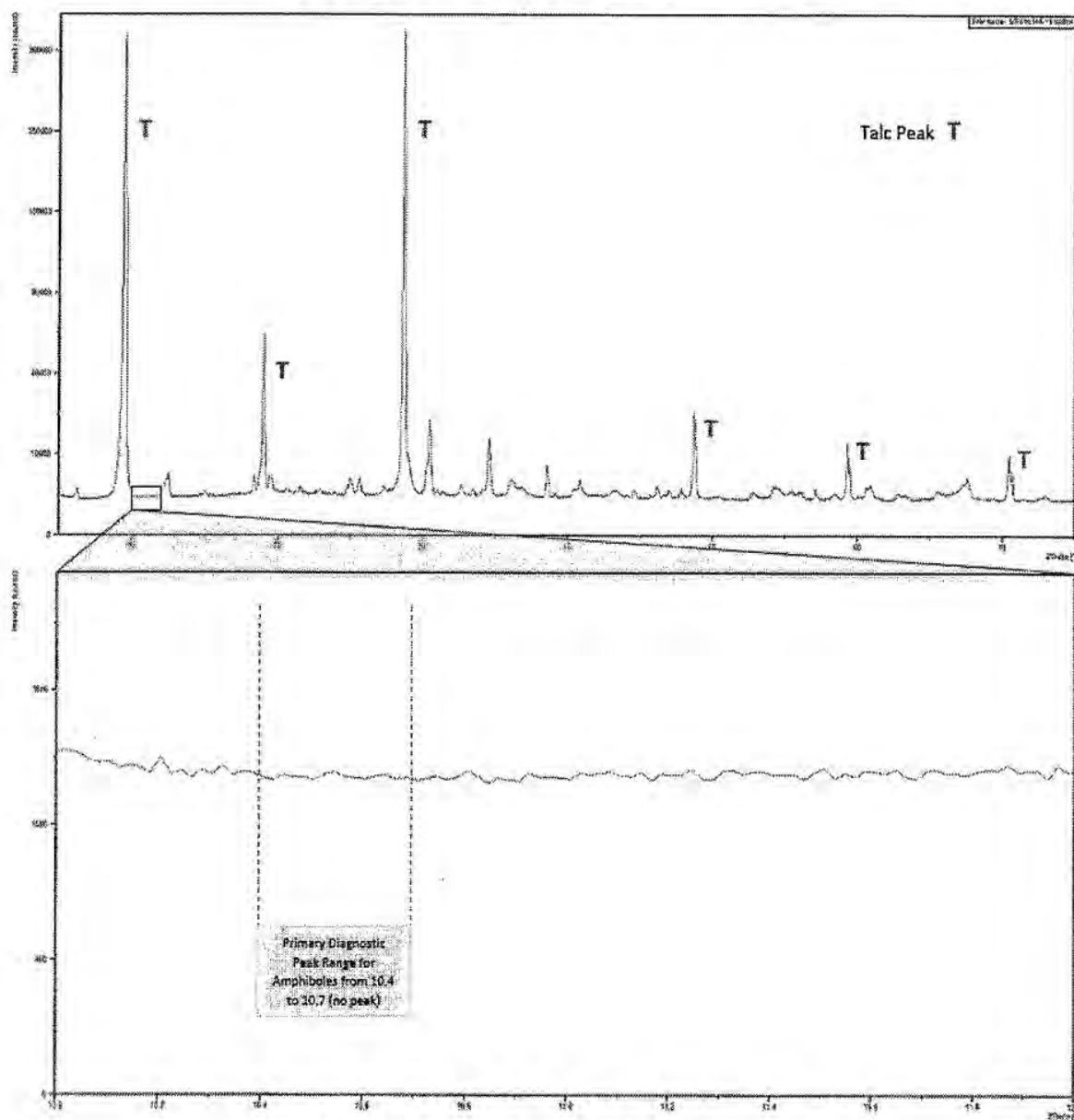




Determination of Asbestos in Talc by XRD

ISO 22262-3:2016

Sample 20180061-21D



No Amphibole Peak Present

EXHIBIT E¹

IN RE JOHNSON & JOHNSON TALCUM POWDER PRODUCTS
MARKETING, SALES PRACTICES, AND PRODUCTS LIABILITY LITIGATION
MDL NO. 16-2738 (FLW) (LHG)

JOINT CATALOGUE

LABORATORY CONTROL NO.	SAMPLE IDENTIFICATION NO.	LABEL ON ORIGINAL CONTAINER	DATE ON ORIGINAL CONTAINER	QUANTITY ON LABEL OF ORIGINAL CONTAINER	QUANTITY IN ORIGINAL CONTAINER OR RECEPTACLE BEFORE DIVISION	QUANTITY IN ORIGINAL CONTAINER/RECEPTACLE OR NEW RECEPTACLE AFTER DIVISION
2018 <u>0061-21</u>	STS055	REGULAR SCENT Shower to Shower DEODORANT BODY POWDER with Baking Soda and Corn starch	1983	8 oz.	AMV ~ 4.310z.	
2018 <u>0061-21 c</u>					~ 4.310z.	~ 3.80 oz.
2018 <u>0061-21 D</u>						~ 0.510z.

Observer for plaintiffs hereby acknowledges receipt of 2018 0061-21 D, ~ 0.510z. of 2018 0061-21 C
(weight)

James W. Duder
Observer for Plaintiffs 5/17/18
Date

Observer for defendants hereby acknowledges witnessing the same.
K 225
Observer for Defendants 5/17/18
Date

Laboratory technician hereby acknowledges that all remaining material from 2018 0061-21 C was returned to its original container or receptacle.

John Kneel
Laboratory Technician 5/17/18
Date

¹ This form is an Exhibit to the Agreed Order and Stipulation Regarding the Johnson & Johnson Defendants' Production of Talcum Powder Products and Talc Samples ("Agreed Order"). Terms used herein have the same meaning as defined in the Agreed Order. The instant form has been adapted for use in connection with the initial division of Samples STS009, STS014, STS015, STS027, STS029, STS030, STS044, STS049 and 2014.001.0397, and further division of Samples STS001, STS002, STS016, STS036, STS055 and STS065.





Section 11

**MAS, LLC
PLM ANALYSIS**

Proj#-Spl# M68503 - 001ISO **Analyst** Paul Hess **Date** 11/2/2018
ClientName Dept 14 Environmental **ClientSpl** 2018-0051-34A
Location _____
Type_Mat Johnson's Baby Powder
Gross Off-white powder **% of Sample** 100
Visual _____

OPTICAL DATA FOR ASBESTOS IDENTIFICATION

Morphology	straight	straight	
Pleochroism	none	none	
Refract Index	1.625/1.610	1.635/1.621	
Sign^	positive	positive	
Extinction	oblique	oblique	
Birefringence	medium	medium	
Melt	no	no	
Fiber Name	Tremolite/Actinolite	Actinolite/Tremolite	

ASBESTOS MINERALS

EST. VOL. %

Chrysotile.....
Amosite.....
Crocidolite.....
Tremolite/Actinolite..... <0.1
Anthophyllite.....

OTHER FIBROUS COMPONENTS

Talc -B/Y DS in 1.55 ***

NON FIBROUS COMPONENTS

Opagues _____ X
Talc _____ X
Mineral grains _____ X

Binder Description _____

Comments Tremolite/Actinolite asbestos observed. *** Trace amount fibrous Talc observed. X =
Materials detected.

The method detection limit is 1% unless otherwise stated.

**MAS, LLC
PLM ANALYSIS**

Proj#-Spl# M68503 - 001BL1 **Analyst** Paul Hess **Date** 11/2/2018
ClientName Dept 14 Environmental **ClientSpl** 2018-0051-34A
Location _____
Type_Mat Johnson's Baby Powder
Gross White debris on slide **% of Sample** 100
Visual _____

OPTICAL DATA FOR ASBESTOS IDENTIFICATION

Morphology	straight		
Pleochroism	none		
Refract Index	1.625/1.613		
Sign^	positive		
Extinction	oblique		
Birefringence	medium		
Melt	no		
Fiber Name	Tremolite/Actinolite		

ASBESTOS MINERALS

EST. VOL. %

Chrysotile.....	_____
Amosite.....	_____
Crocidolite.....	_____
Tremolite/Actinolite.....	<0.1
Anthophyllite.....	_____

OTHER FIBROUS COMPONENTS

_____	_____
_____	_____
_____	_____
_____	_____

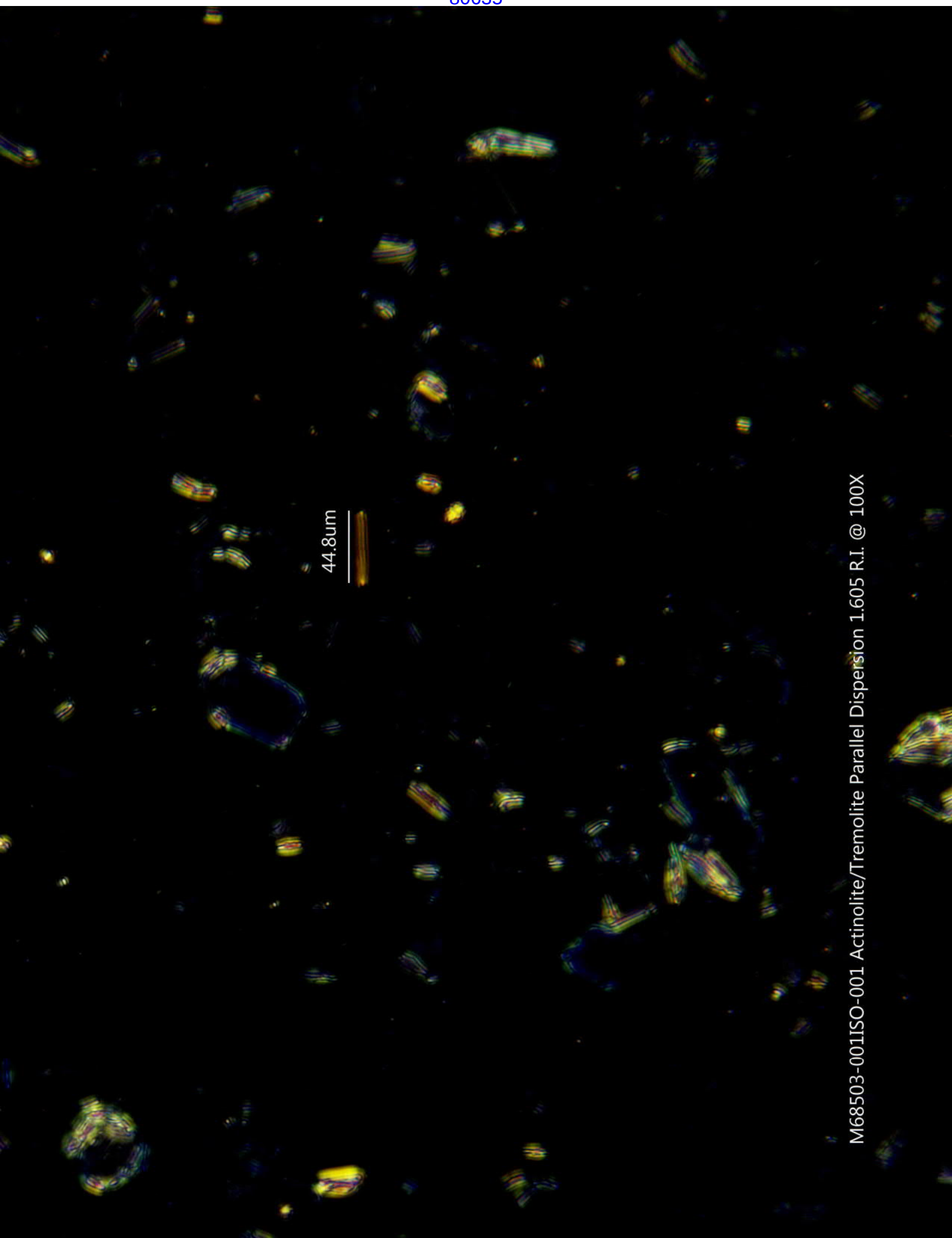
NON FIBROUS COMPONENTS

Opagues	X
Talc	X
Mineral grains	X
_____	_____

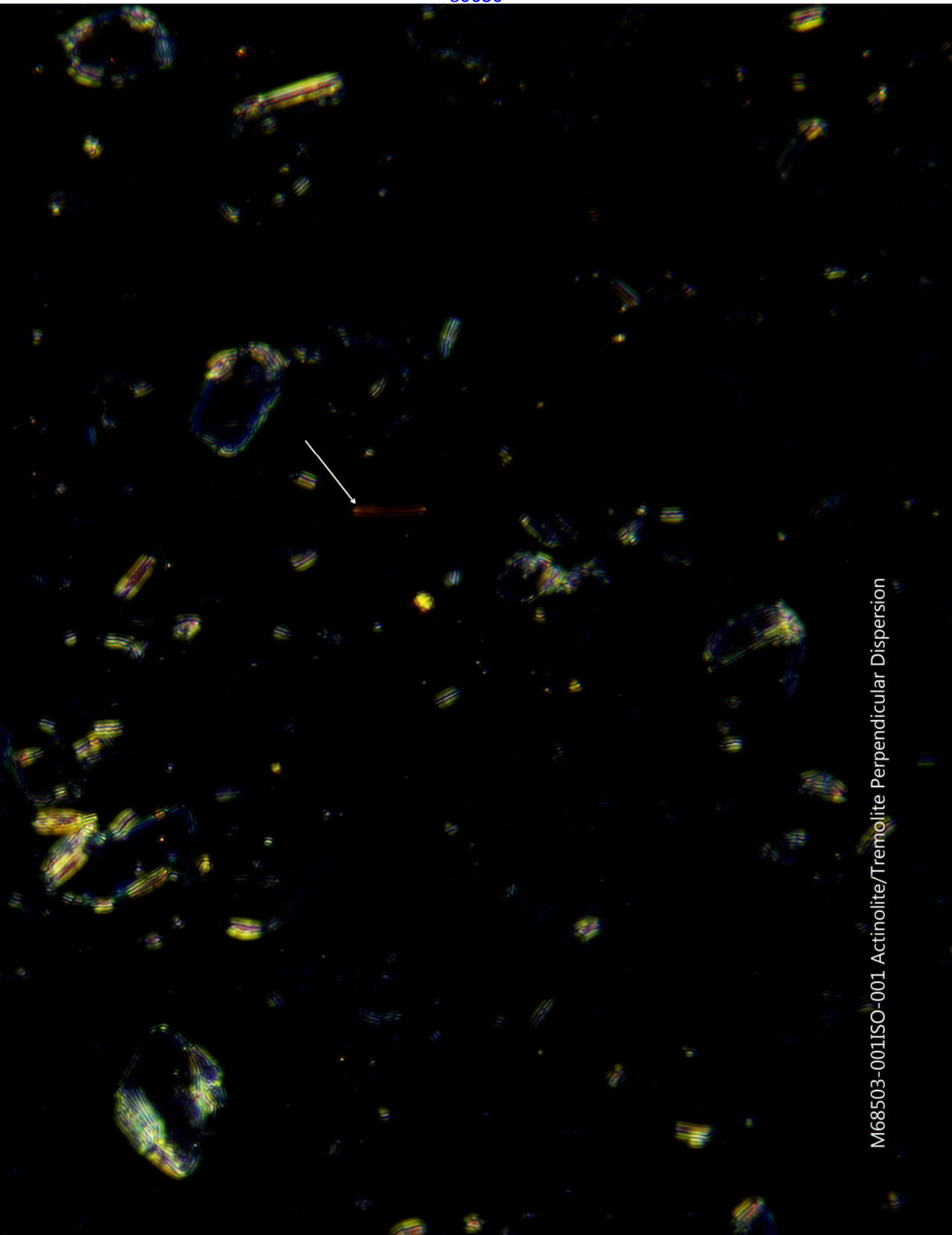
Binder Description _____

Comments Tremolite/Actinolite asbestos observed. X = Materials detected.

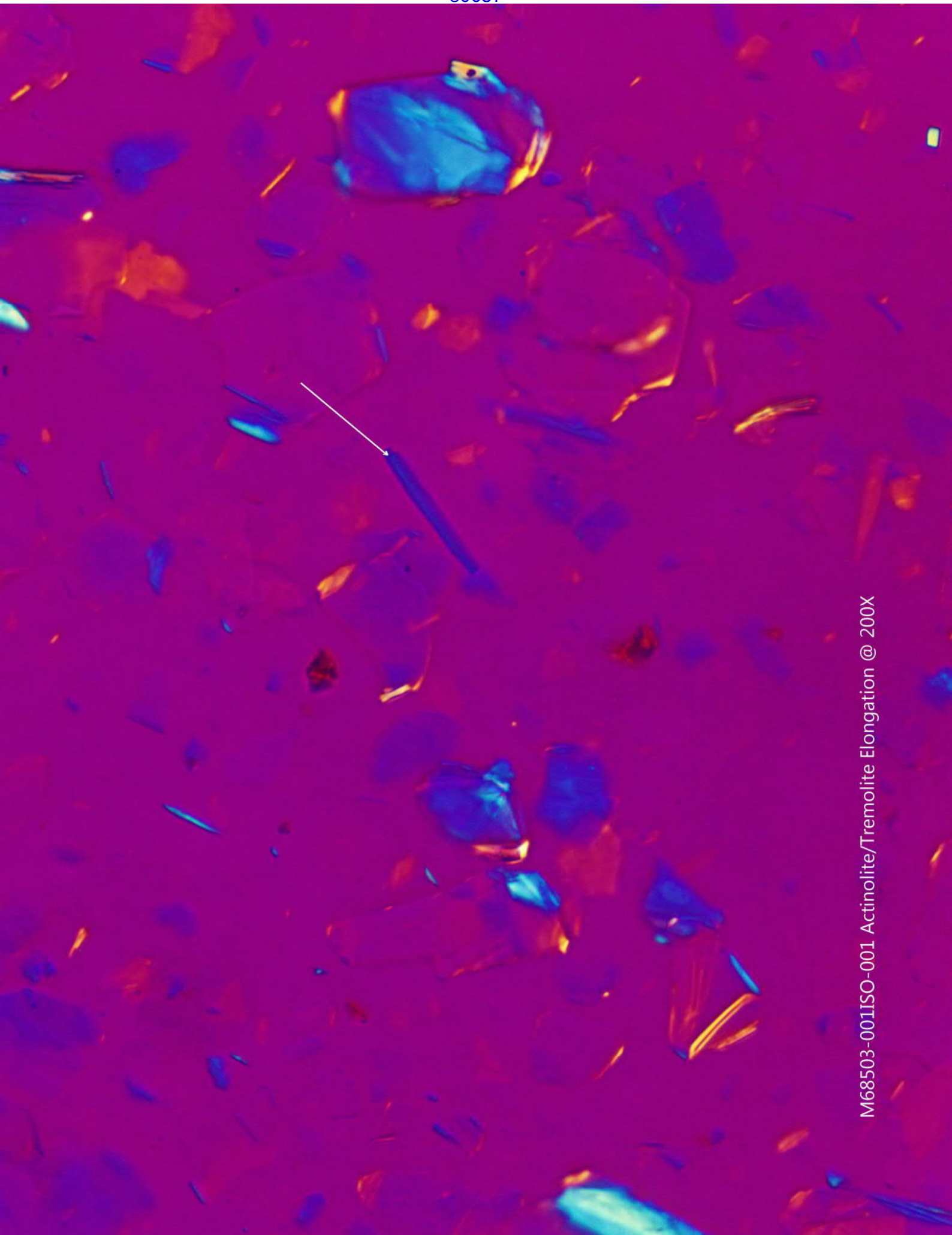
The method detection limit is 1% unless otherwise stated.



M68503-001ISO-001 Actinolite/Tremolite Parallel Dispersion 1.605 R.I. @ 100X



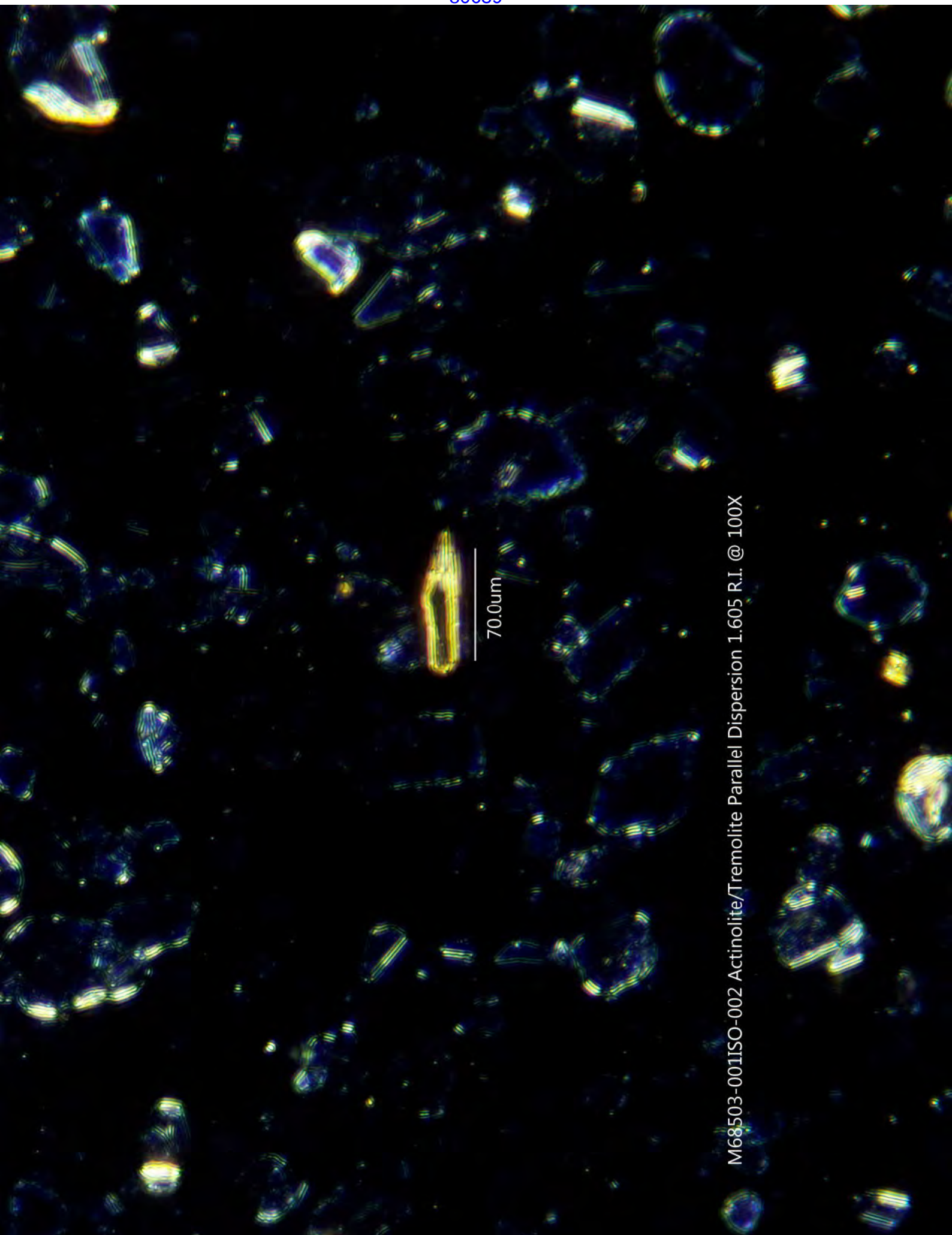
M68503-001ISO-001 Actinolite/Tremolite Perpendicular Dispersion



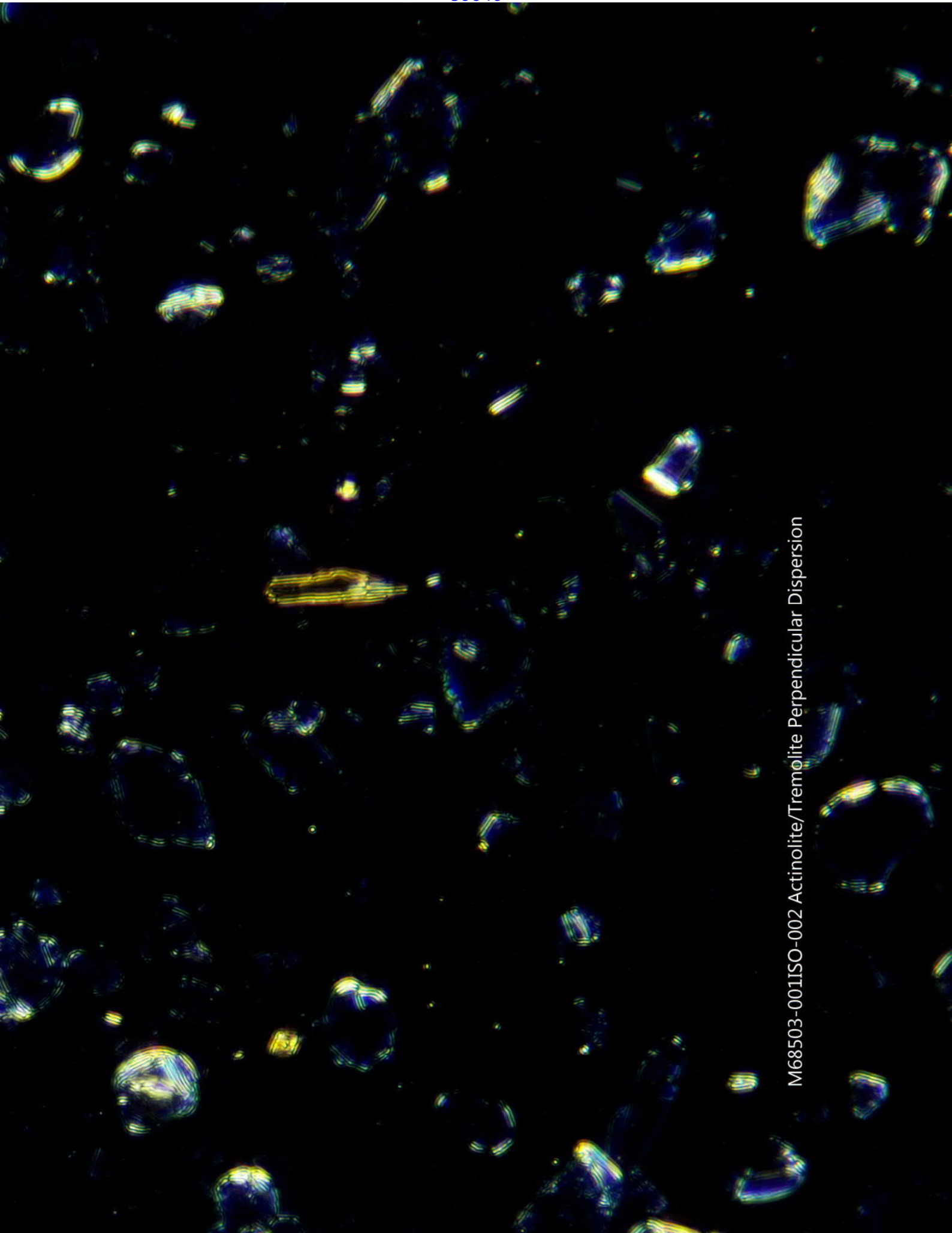
M68503-001ISO-001 Actinolite/Tremolite Elongation @ 200X



M68503-001ISO-001 Actinolite/Tremolite Crossed Polars



M68503-001ISO-002 Actinolite/Tremolite Parallel Dispersion 1.605 R.I. @ 100X

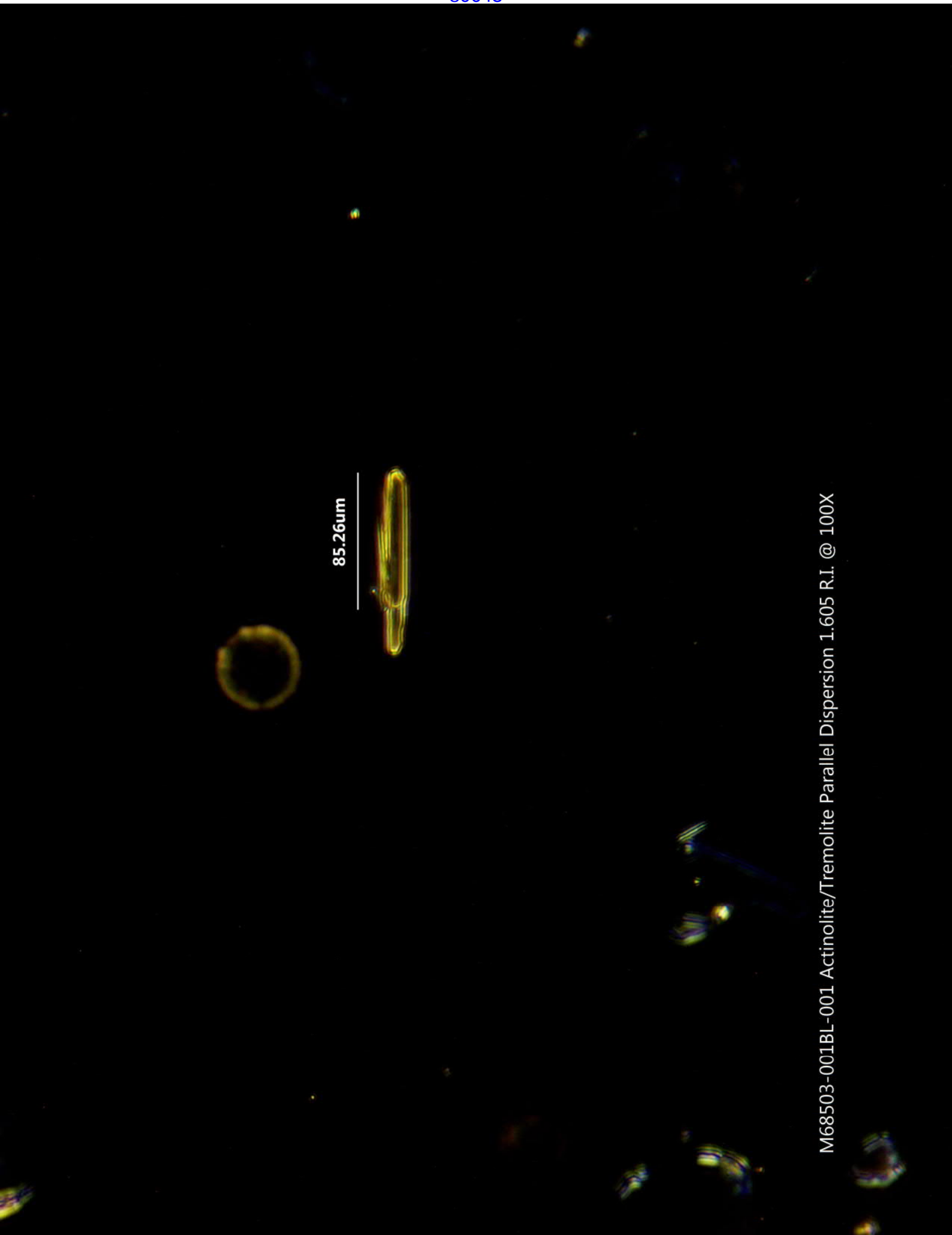


M68503-001ISO-002 Actinolite/Tremolite Perpendicular Dispersion



M68503-001ISO-002 Actinolite/Tremolite Elongation @ 200X

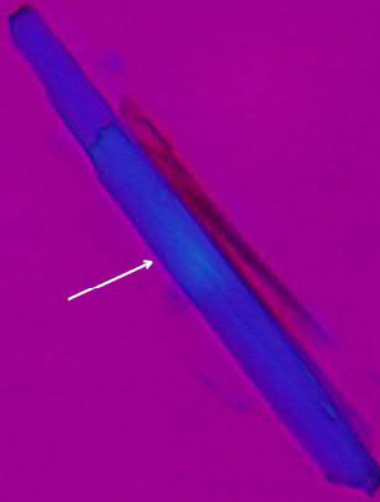
M68503-001ISO-002 Actinolite/Tremolite Crossed Polars



M68503-001BL-001 Actinolite/Tremolite Parallel Dispersion 1.605 R.I. @ 100X



M68503-001BL-001 Actinolite/Tremolite Perpendicular Dispersion



M68503-001BL-001 Actinolite/Tremolite Elongation @ 200X



M68503-001BL-001 Actinolite/Tremolite Crossed Polars

TEM Bulk Talc Structure Count Sheet						
Project/ Sample No.	M68503-001		Grid Box #	8623	No. of Grids Counted	2
Analyst:	Jose Carrillo			Length	Width	G. O. Area
Date of Analysis	10/22/2018-10/30/18		G. O. in microns =	105	105	11025
Initial Weight(g)	0.02921			105	105	11025
Analysis Type	Post Separation Talc Analysis		Grid Acceptance	Yes	Average	11025
Scope No.	Accelerating Voltage	100 KV	Loading%	15%	G.O.s Counted	100
2	Screen Magnification	20 KX	Area Examined mm²			1.103

Str. #	Grid Opening	Structure	Asbestos Type	Length	Width	Ratio	SAED	EDS
NSD	A6-J1							
NSD	J2							
NSD	J3							
NSD	J4							
NSD	I1							
NSD	I2							
NSD	I3							
1	I4	Bundle	Anthophyllite	9.89	0.46	21.5	X	X
NSD	H1							
NSD	H2							
NSD	H3							
NSD	H4							
NSD	H5							
NSD	G1							
NSD	G2							
NSD	G3							
NSD	G4							
NSD	G5							
NSD	F1							
NSD	F2							
NSD	F3							
NSD	F4							
NSD	E1							
NSD	E2							
NSD	E3							
NSD	E4							
NSD	E5							
NSD	E6							
NSD	E7							
NSD	E8							
NSD	E9							
NSD	E10							
NSD	D1							
NSD	D2							
NSD	D3							
2	D4	Bundle	Tremolite	3.2	0.59	5.4	X	X
NSD	D5							
NSD	D6							
NSD	D7							
NSD	D8							
NSD	D9							
NSD	D10							
NSD	C1							
NSD	C2							
NSD	C3							
NSD	C4							
NSD	C5							
NSD	C6							
NSD	C7							
3	C8	Bundle	Tremolite	10.4	1.38	7.5	X	X

TEM Bulk Talc Structure Count Sheet						
Project/ Sample No.	M68503-001		Grid Box #	8623	No. of Grids Counted	2
Analyst:	Jose Carrillo			Length	Width	G. O. Area
Date of Analysis	10/22/2018-10/30/18		G. O. in microns =	105	105	11025
Initial Weight(g)	0.02921			105	105	11025
Analysis Type	Post Separation Talc Analysis		Grid Acceptance	Yes	Average	11025
Scope No.	Accelerating Voltage	100 KV	Loading%	15%	G.O.s Counted	100
2	Screen Magnification	20 KX	Area Examined mm²			1.103

Str. #	Grid Opening	Structure	Asbestos Type	Length	Width	Ratio	SAED	EDS
NSD	B6-J1							
NSD	J2							
NSD	J3							
NSD	J4							
NSD	J5							
NSD	J6							
NSD	J7							
NSD	J8							
NSD	I1							
NSD	I2							
NSD	I3							
NSD	I4							
NSD	I5							
NSD	I6							
NSD	I7							
NSD	I8							
NSD	I9							
NSD	I10							
NSD	G1							
NSD	G2							
NSD	G3							
NSD	G4							
NSD	G5							
NSD	G6							
NSD	G7							
NSD	G8							
NSD	G9							
NSD	G10							
NSD	E1							
NSD	E2							
NSD	E3							
NSD	E4							
NSD	E5							
NSD	E6							
NSD	E7							
NSD	E8							
NSD	E9							
NSD	E10							
NSD	D1							
NSD	D2							
NSD	D3							
NSD	D4							
NSD	D5							
NSD	D6							
NSD	D7							
NSD	D8							
NSD	D9							
NSD	D10							
NSD	C9							
NSD	C10							

TEM Bulk Talc Structure Count Sheet						
Project/ Sample No.	M68503-001		Grid Box #	8623	No. of Grids Counted	2
Analyst:	Jose Carrillo			Length	Width	G. O. Area
Date of Analysis	10/22/2018-10/30/18		G. O. in microns =	105	105	11025
Initial Weight(g)	0.02921			105	105	11025
Analysis Type	Post Separation Talc Analysis		Grid Acceptance	Yes	Average	11025
Scope No.	Accelerating Voltage	100 KV	Loading%	15%	G.O.s Counted	100
2	Screen Magnification	20 KX	Area Examined mm²			1.103

Str. #	Grid Opening	Structure	Asbestos Type	Length	Width	Ratio	SAED	EDS
--------	--------------	-----------	------------------	--------	-------	-------	------	-----

Org. Sample Wt.	Sample Wt. Post HL Separation
0.02921	0.02921 g
Percent of Orig. Post Separation	100 (%)

Wt. Of Sample Analyzed	0.00016014 g
Filter size	201.1 mm²
Number of Structures Counted	3 Str.
Structures per Gram of Sample	1.87E+04 Str./g

Detection Limit	6.24E+03	Str./g
Analytical Sensitivity	6.24E+03	Str./g

EDAX TEAM

Page 1

Analysis

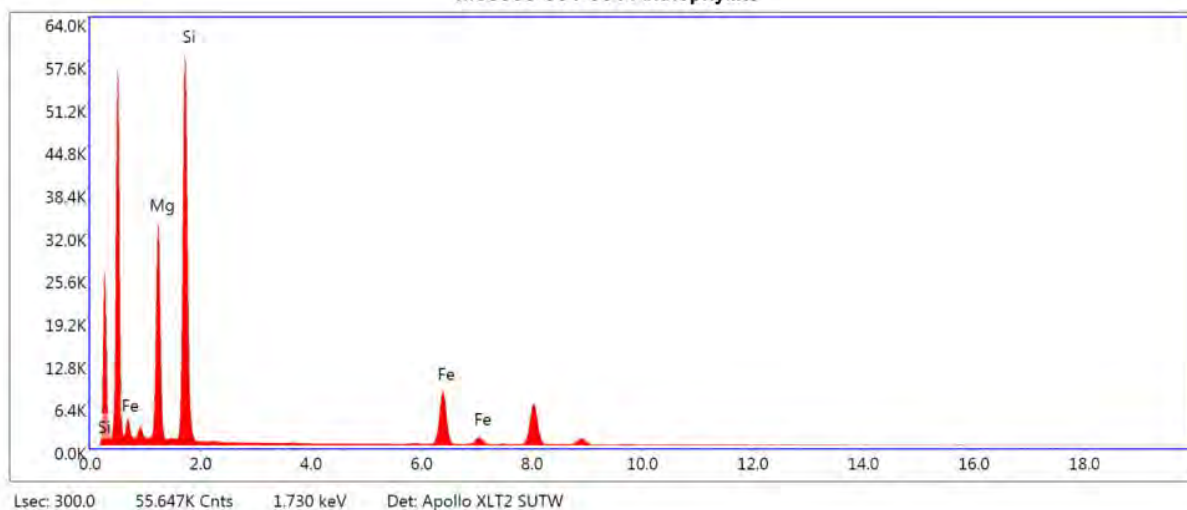
Author: TEM #1

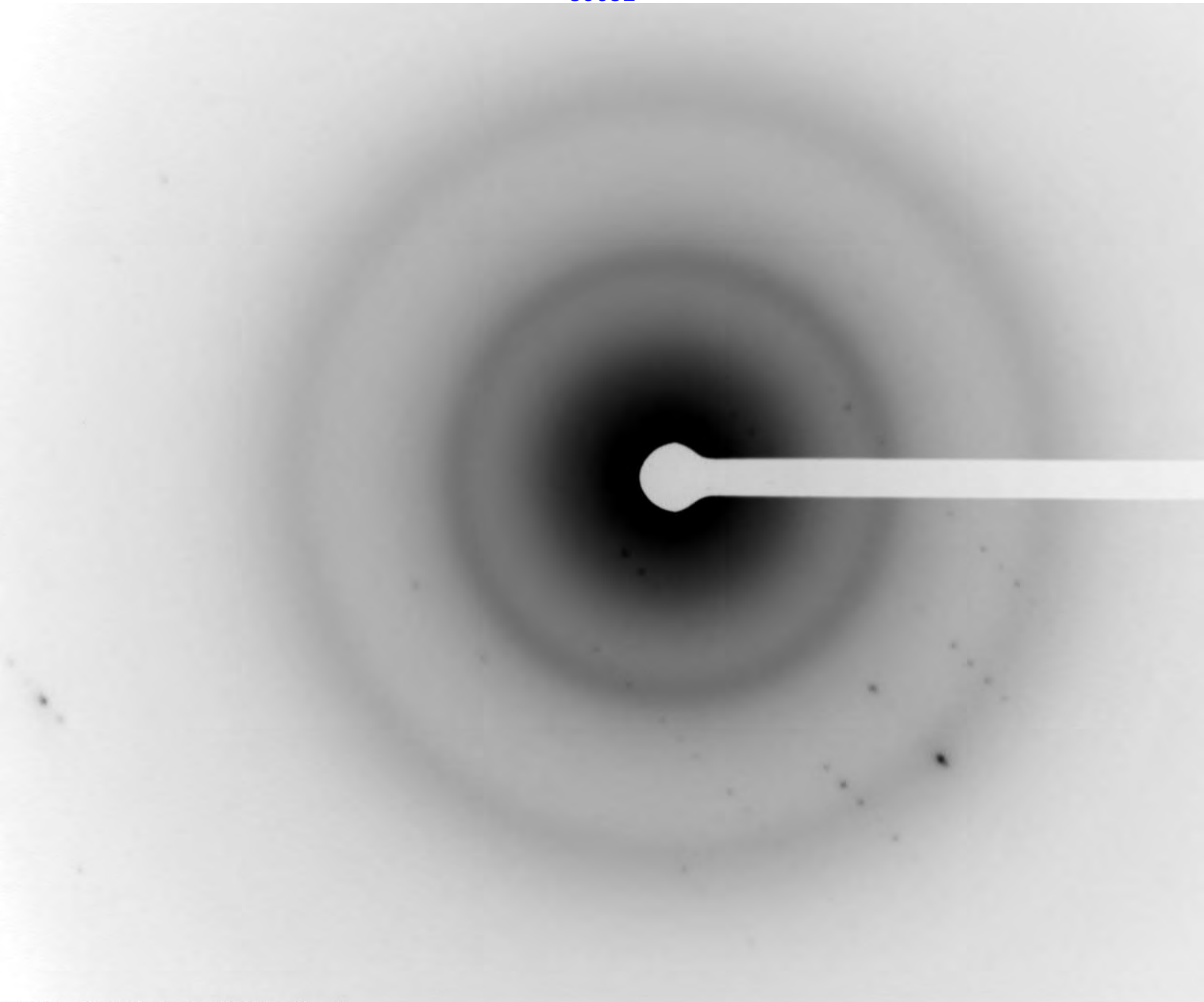
Creation: 10/22/2018 3:13:45 PM

Sample Name: M68503-001-001 Anthophyllite

kV: 100 Mag: 25000 Takeoff: 1 Live Time(s): 300 Amp Time(μ s): 1.92 Resolution:(eV) 135.1

M68503-001-001 Anthophyllite

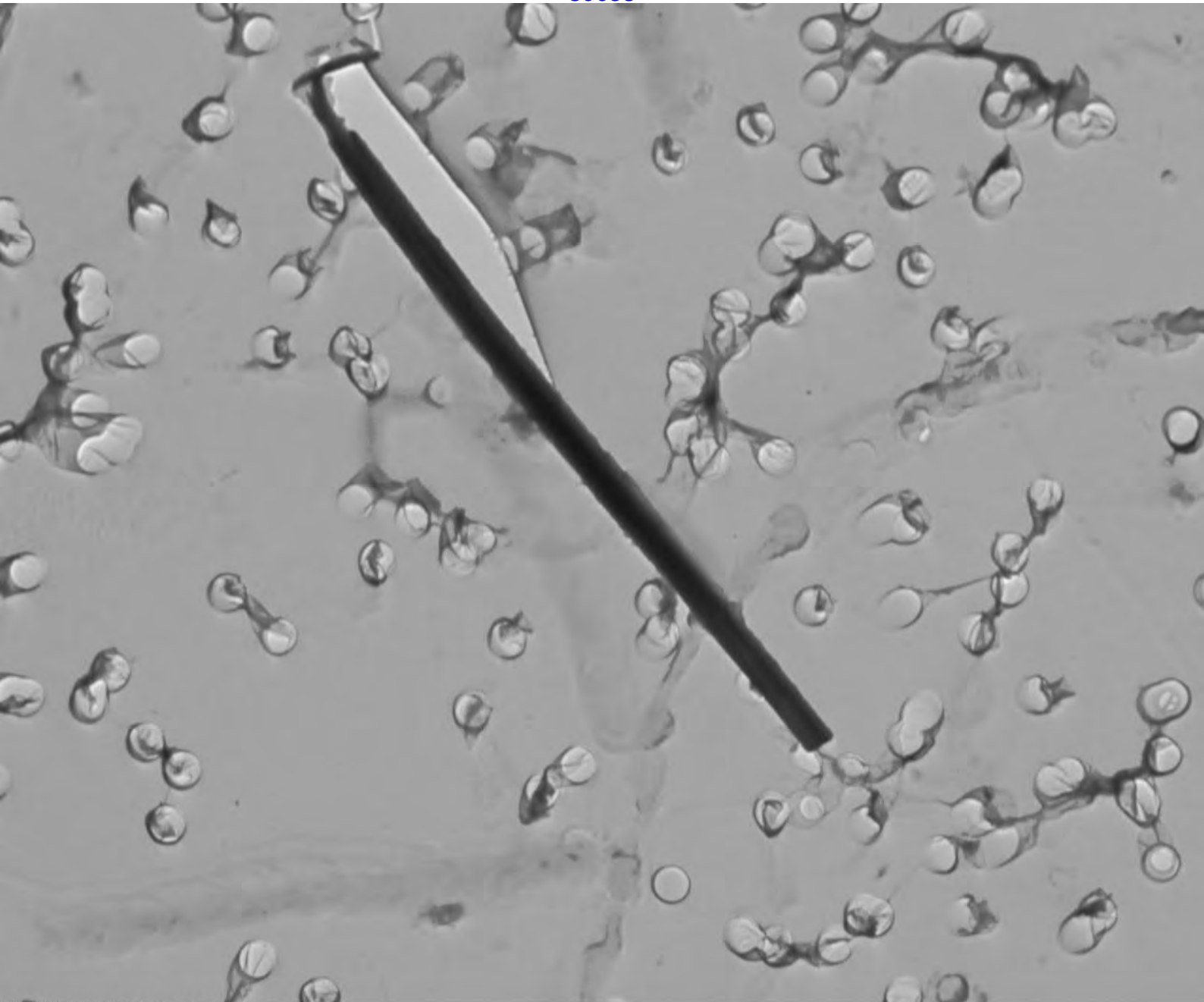




M68503-001-001 Anthophyllite Diffraction.tif
Diffraction @ 50 cm
10:08 10/29/2018



M68503-001-001 Anthophyllite Diffraction 2.tif
Diffraction @ 50 cm
10:59 10/29/2018



M68503-001-001 Anthophyllite Image.tif
(9.89 um x 0.46um)
09:32 10/22/2018

EDAX TEAM

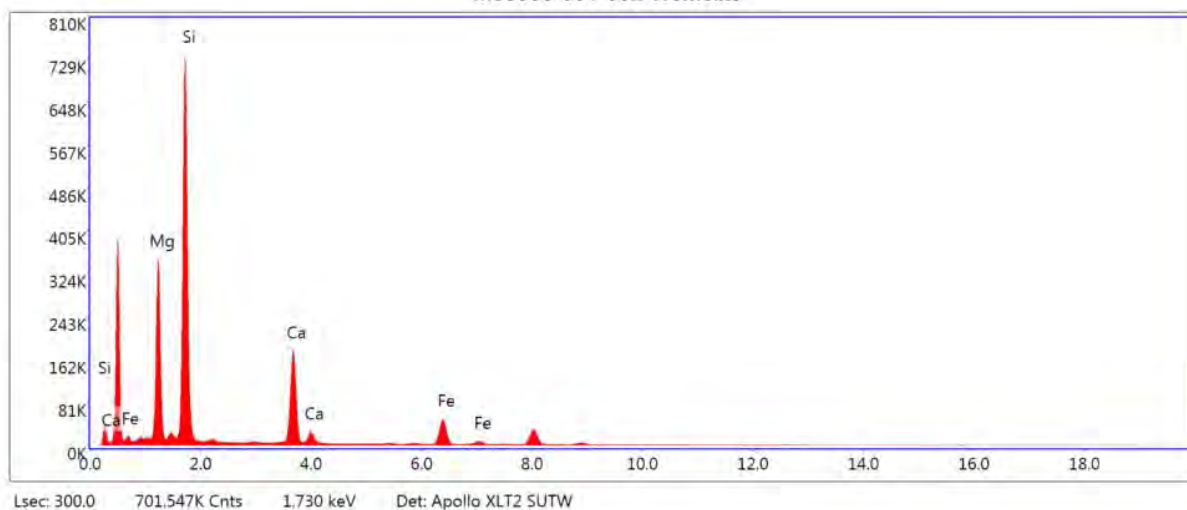
Page 1

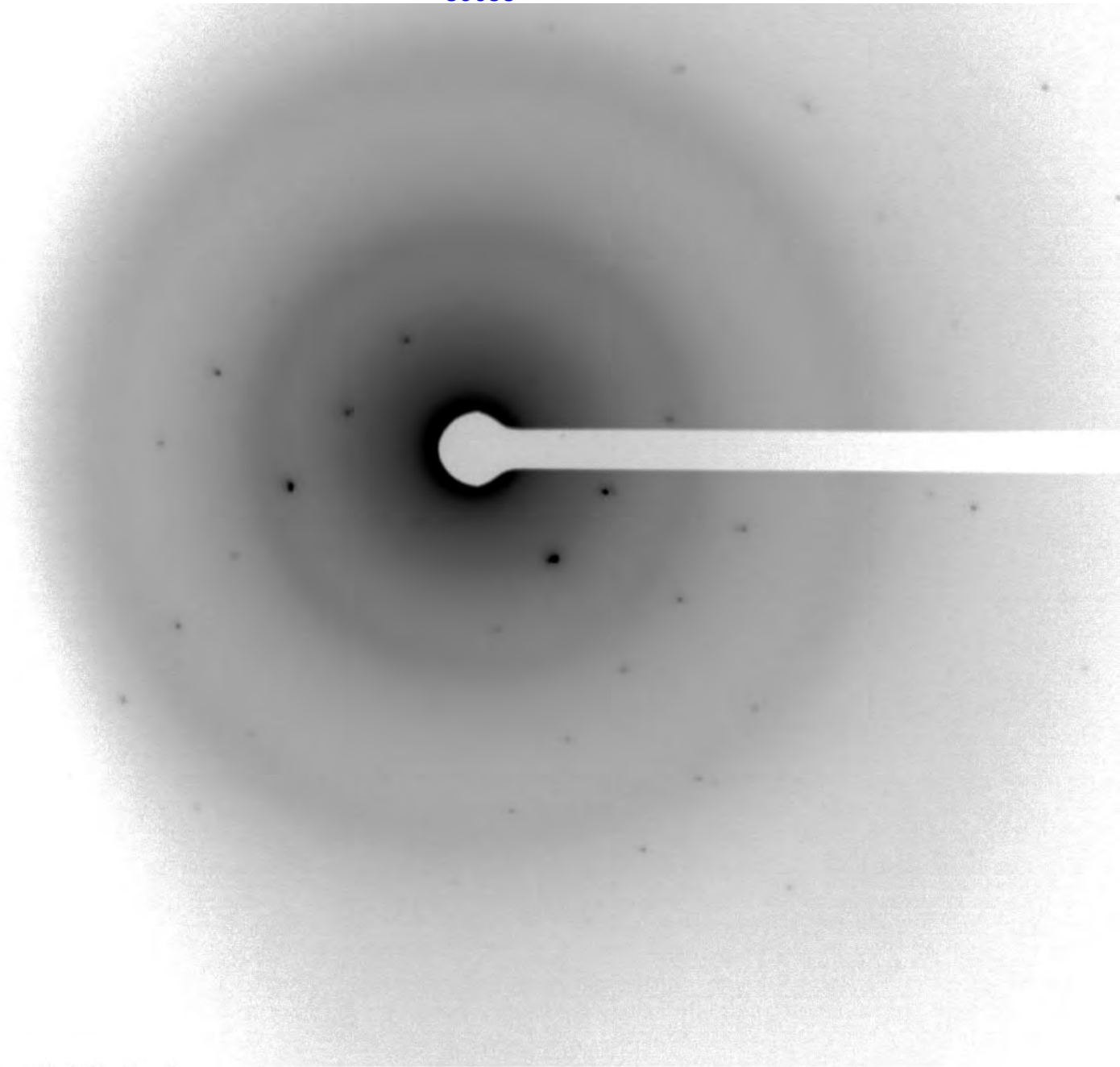
Analysis

Author: TEM # 1
Creation: 10/23/2018 10:45:12 AM
Sample Name: M68503-001-002 Tremolite

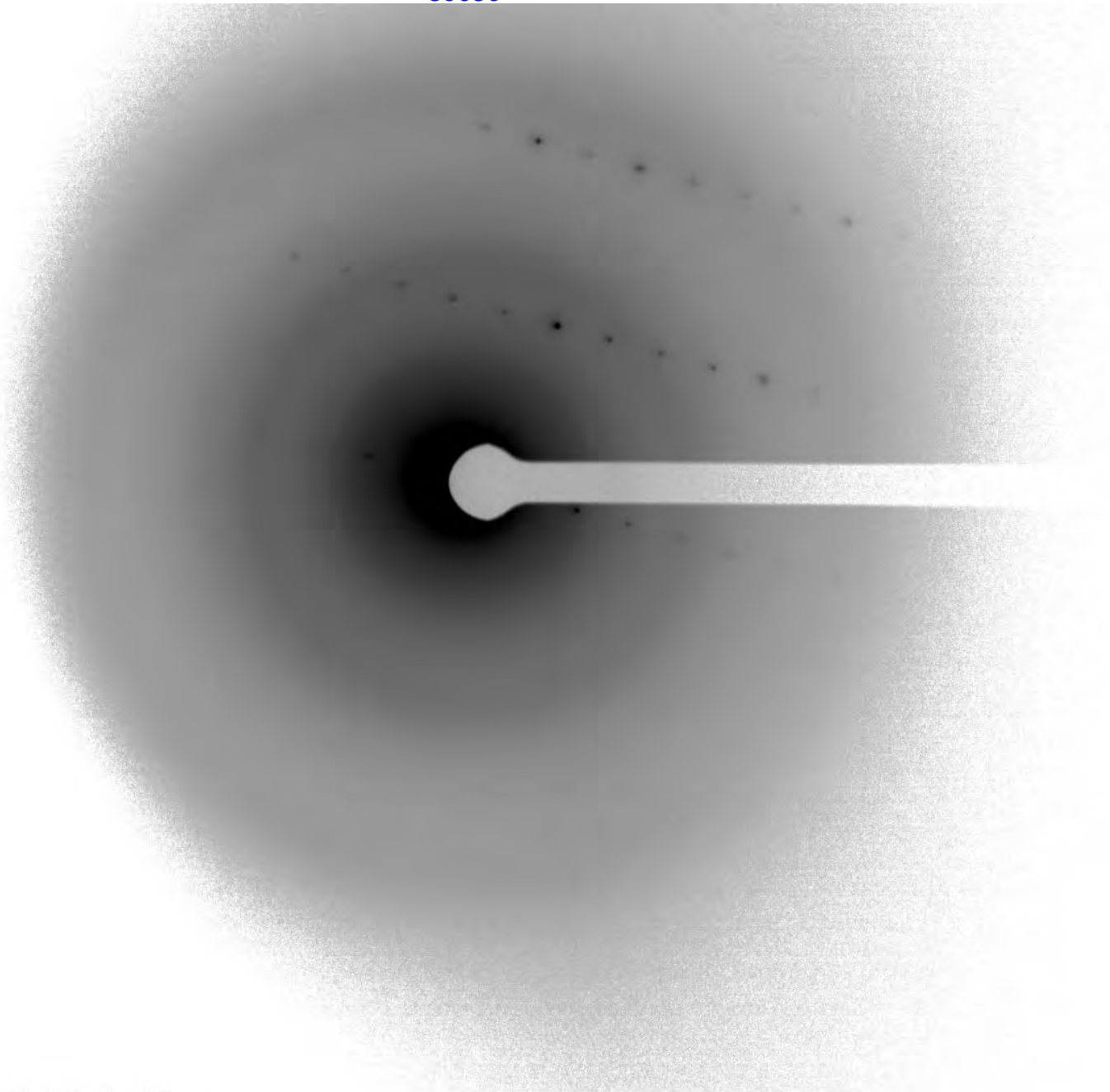
kV: 100 Mag: 25000 Takeoff: 1 Live Time(s): 300 Amp Time(μs): 1.92 Resolution:(eV) 135.1

M68503-001-002 Tremolite

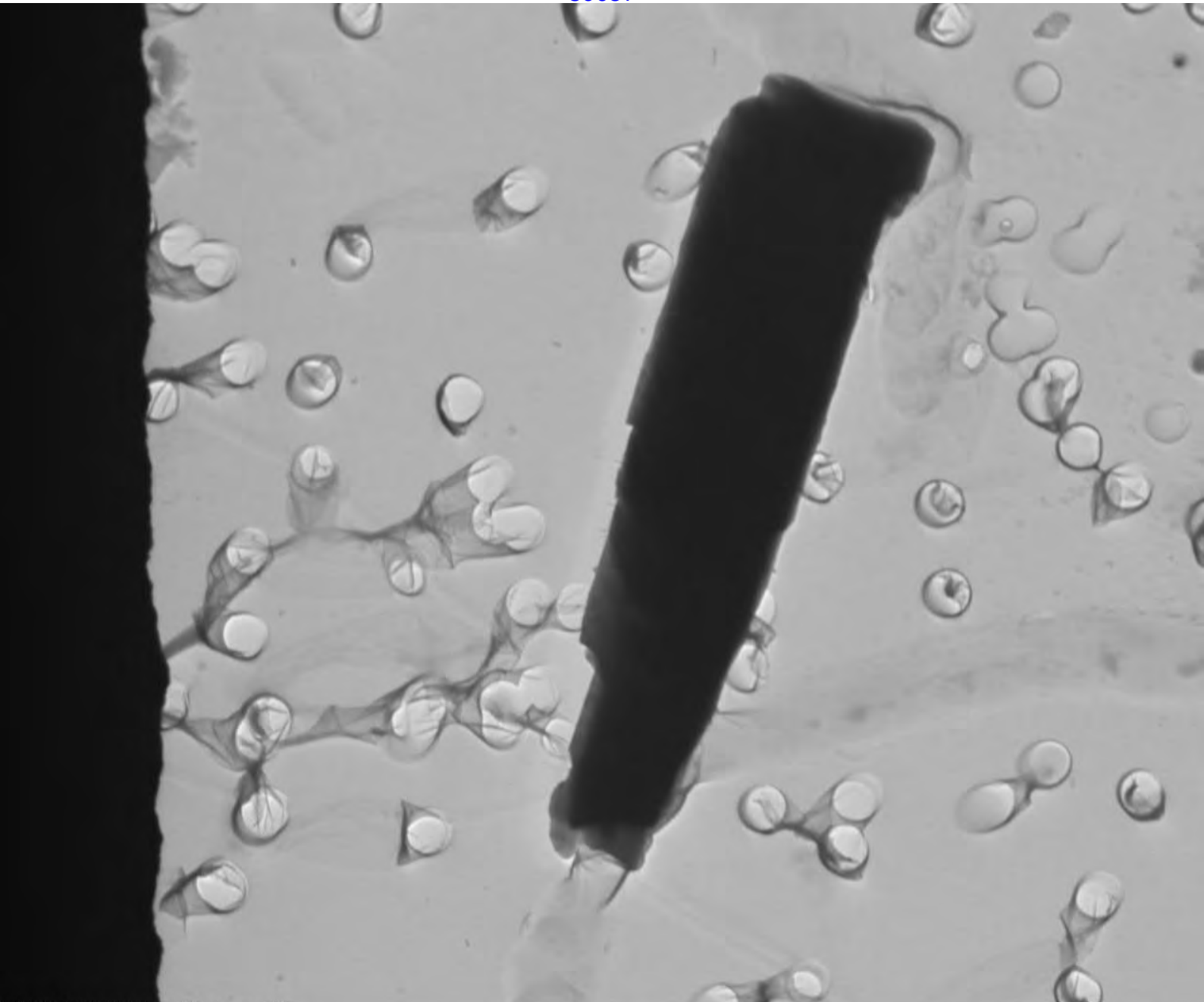




M68503-001-002 Tremolite Diffraction.tif
Diffraction @ 50 cm
08:38 10/23/2018



M68503-001-002 Tremolite Diffraction 2.tif
Diffraction @ 50 cm
09:01 10/23/2018



M68503-001-002 Tremolite Image.tif
(3.2um x 0.59um)
10:03 10/23/2018

EDAX TEAM

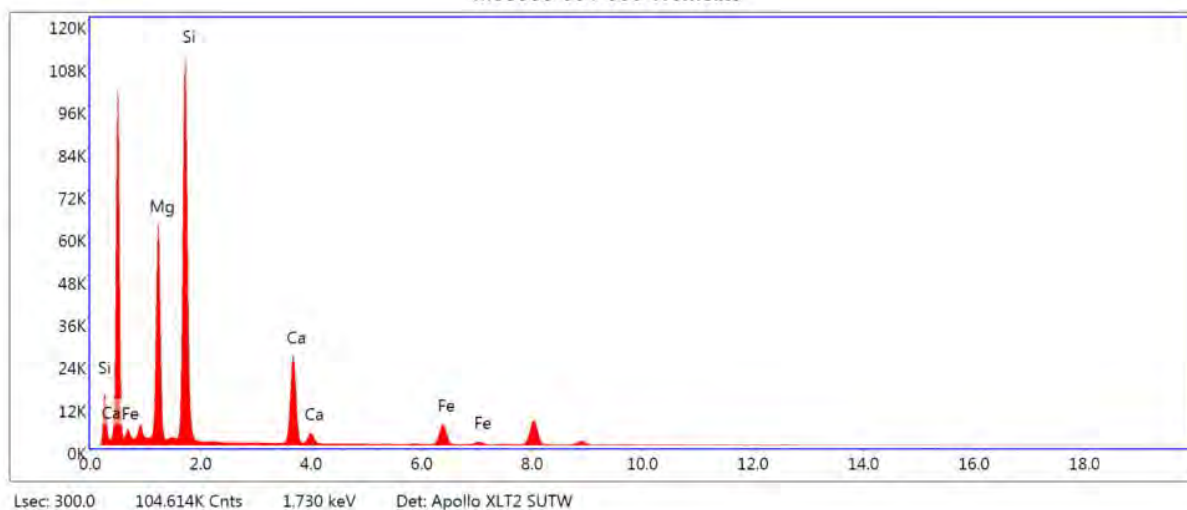
Page 1

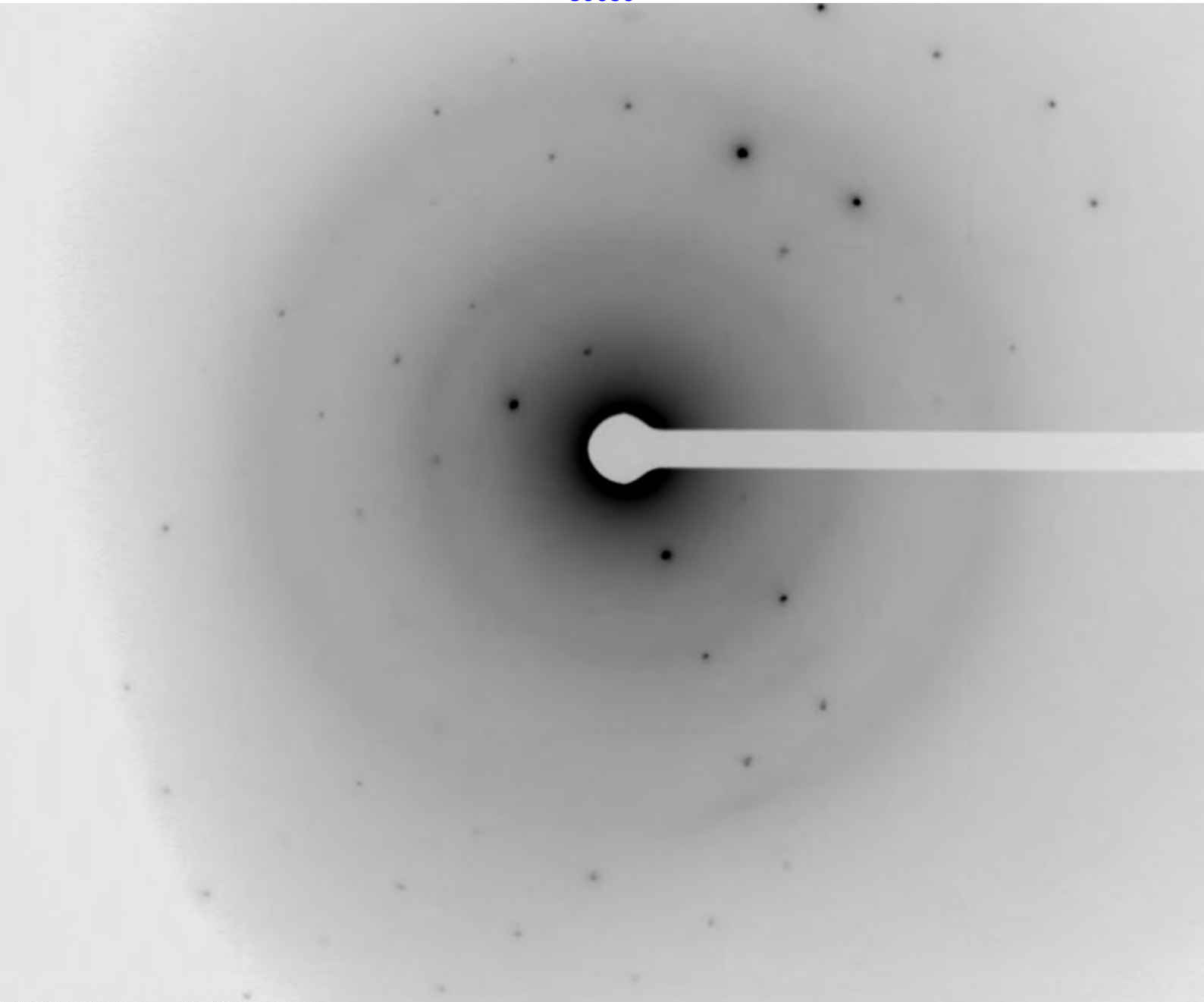
Analysis

Author: TEM #1
Creation: 10/24/2018 9:39:38 AM
Sample Name: M68503-001-003 Tremolite

kV: 100 Mag: 25000 Takeoff: 1 Live Time(s): 300 Amp Time(μ s): 1.92 Resolution:(eV) 135.1

M68503-001-003 Tremolite



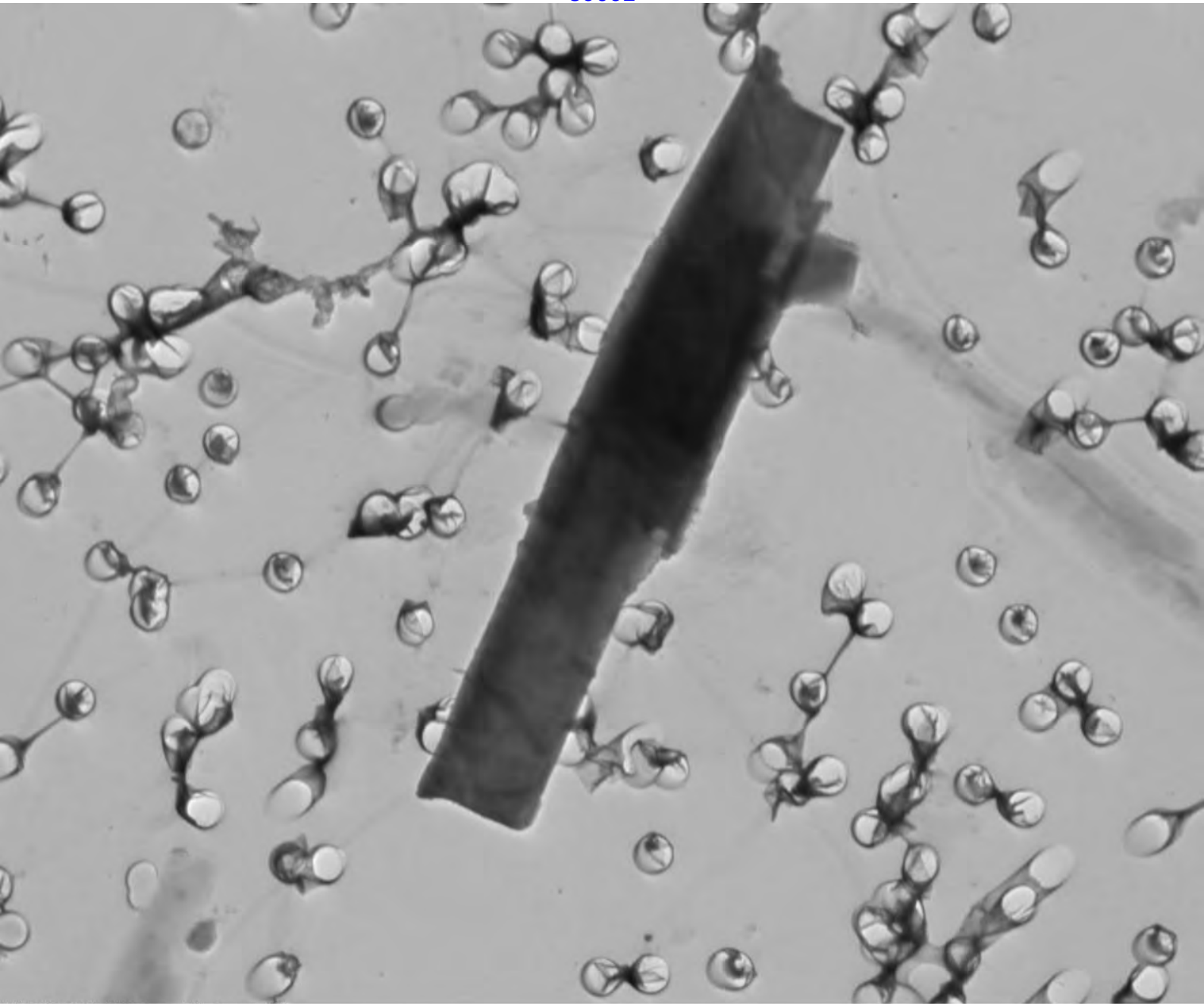


M68503-001-003 Tremolite Diffraction.tif
Diffraction @ 50 cm
09:15 10/24/2018



The image shows a grayscale X-ray diffraction pattern. It features a central bright spot with a horizontal beam stop extending to the right. Several curved arcs of diffraction spots are visible, indicating a crystalline structure. The spots are more concentrated in the upper and lower arcs.

M68503-001-003 Tremolite Diffraction 2.tif
Diffraction @ 50cm
13:31 10/23/2018



M68503-001-003 Tremolite Image.tif
(10.4um x 1.38um)
09:25 10/24/2018

TEM Bulk Talc Structure Count Sheet						
Project/ Sample No.	M68503-001		Grid Box #	8623	No. of Grids Counted	2
Analyst:	Jose Carrillo			Length	Width	G.O. Area
Date of Analysis	10/22/2018-10/30/18		G. O. in microns =	105	105	105
Initial Weight(g)	0.02921			105	105	105
Analysis Type	Post Separation Talc Analysis		Grid Acceptance	Yes	Average	11025
Scope No.	Accelerating Voltage	100 KV	Loading%	15%	G.O.s Counted	100
2	Screen Magnification	20 KX	Area Examined mm²			1.103

Str. #	Grid Opening	Str./Asb. Type	Length	Width	Ratio	SAED	EDS
Talc #1	B6-J8	F-Talc	12.7	0.87	14.6	Fibrous Talc Observed Trace Throughout	

EDAX TEAM

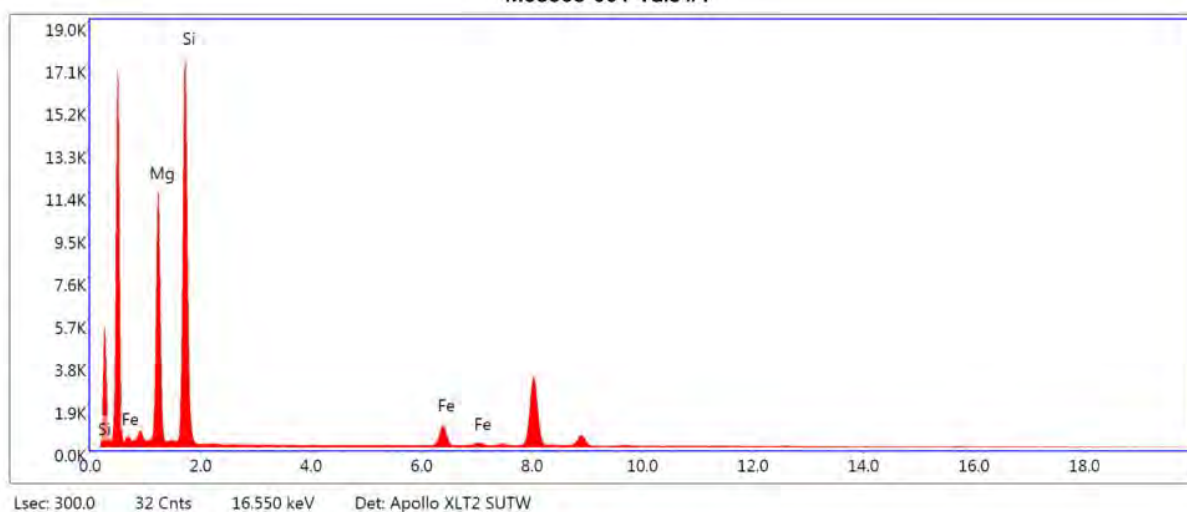
Page 1

Analysis

Author: TEM # 1
Creation: 10/25/2018 9:02:54 AM
Sample Name: M68503-001-Talc #1

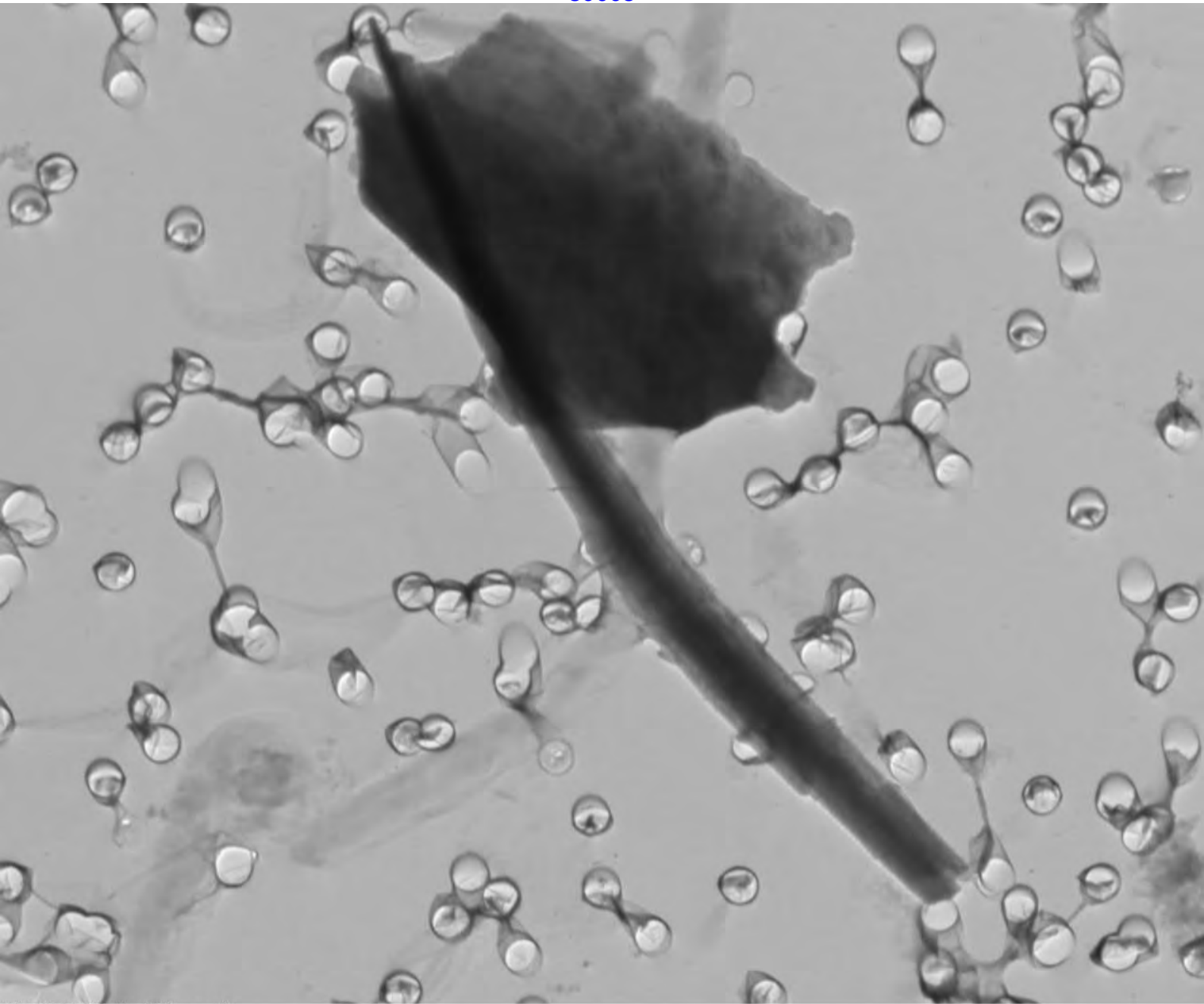
kV: 100 Mag: 25000 Takeoff: 1 Live Time(s): 300 Amp Time(μ s): 1.92 Resolution:(eV) 135.1

M68503-001-Talc #1





M68503-001-Talc #1 Diffraction.tif
Diffraction @ 50cm
15:10 10/24/2018



M68503-001-Talc #1 Image.tif
(12.7um x 0.87um)
15:14 10/24/2018



Determination of Asbestos in Talc by PLM

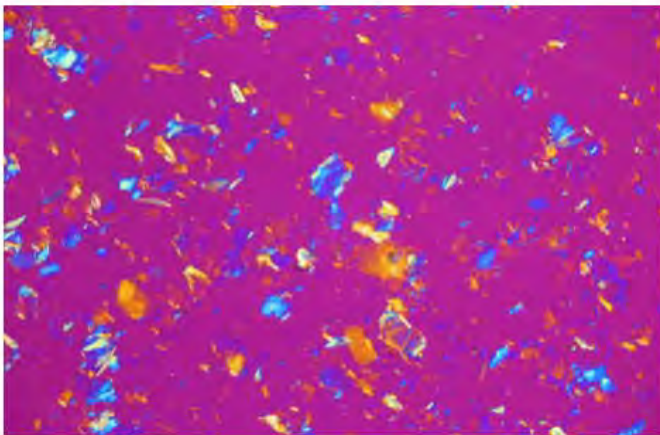
ISO 22262-1:2014

Sample M68708-001

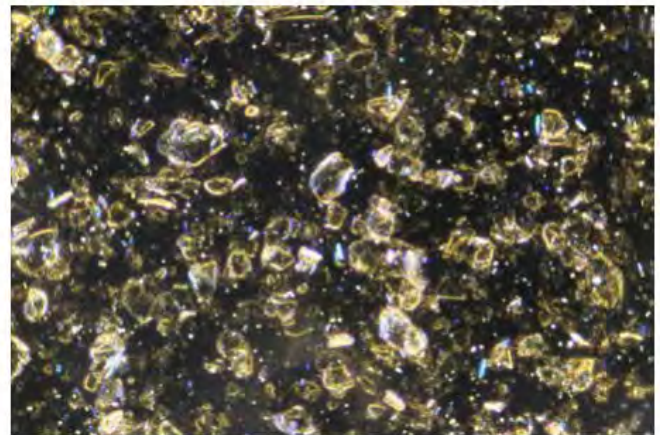
The sample was a white powder containing >95% platy Talc particles of approximately 150 μ m in size.

No asbestos was detected by PLM.

Polarized Light Microscope Images



*100X Magnification of Talc Particles
Crossed polars and 530nm gypsum
compensator plate*



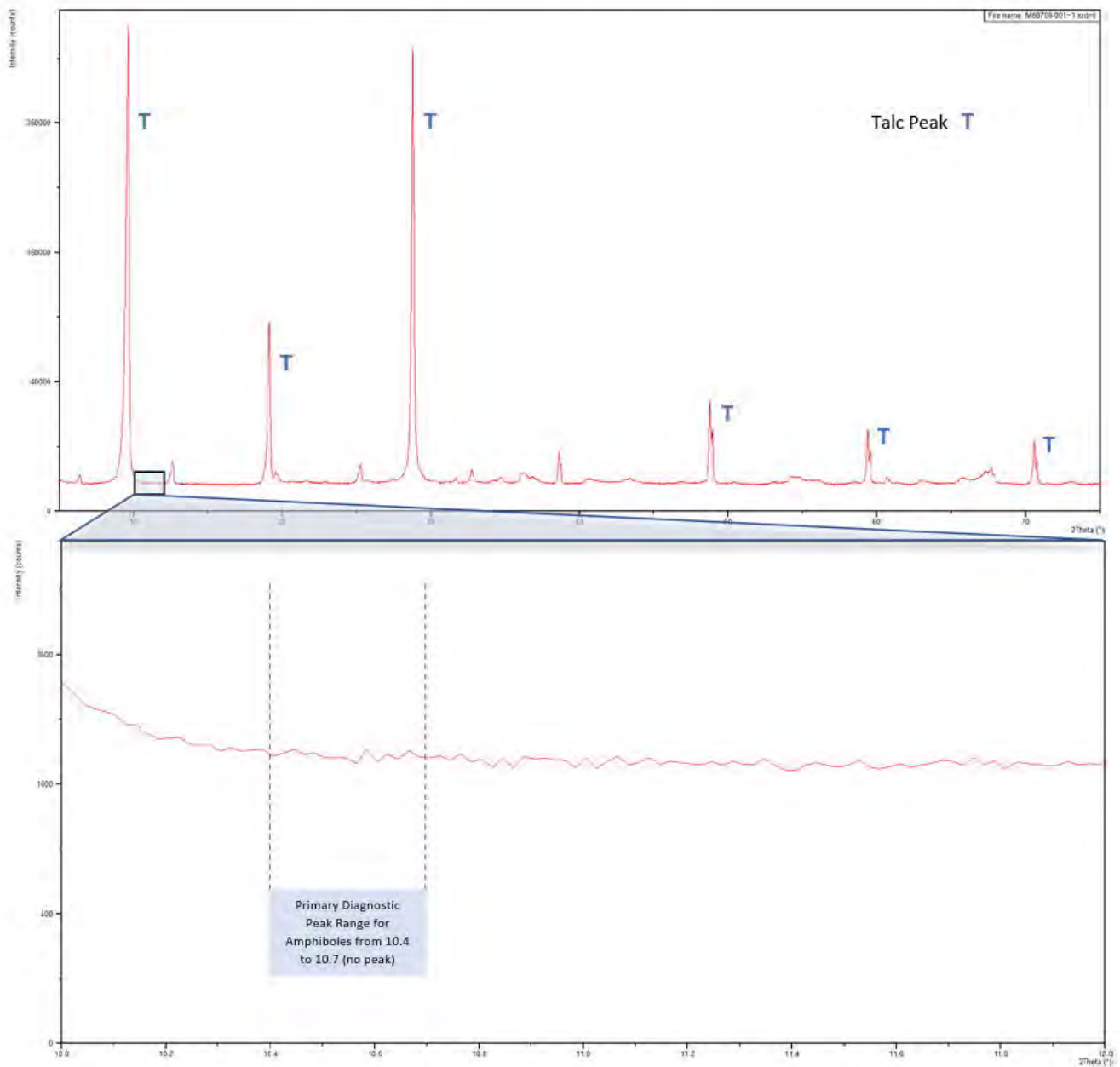
*100X Magnification dispersion
staining of Talc Particles
1.550 refractive index oil*



Determination of Asbestos in Talc by XRD

ISO 22262-3:2016

Sample M68708-001



No Amphibole Peak Present

Section 12

**MAS, LLC
PLM ANALYSIS**

Proj#-Spl# M69042 - 010 **Analyst** Paul Hess **Date** 10/12/2018
ClientName LEVY & KONIGSBERG **ClientSpl** 20180070-86D
Location _____
Type_Mat Johnson & Johnson Talcum Powder
Gross Off-white powder **% of Sample** 100
Visual _____

OPTICAL DATA FOR ASBESTOS IDENTIFICATION

Morphology	straight		
Pleochroism	none		
Refract Index	1.638/1.624		
Sign^	positive		
Extinction	oblique		
Birefringence	moderate		
Melt	no		
Fiber Name	Actinolite/Tremolite		

ASBESTOS MINERALS

EST. VOL. %

Chrysotile.....
Amosite.....
Crocidolite.....
Tremolite/Actinolite..... <0.1
Anthophyllite.....

OTHER FIBROUS COMPONENTS

Talc -B/Y DS in 1.55 ***

NON FIBROUS COMPONENTS

Opagues _____ X
Talc _____ X
Mineral grains _____ X

Binder Description _____

Comments Actinolite/Tremolite asbestos observed. *** Moderate amount Fibrous talc observed. X
= Materials detected.

The method detection limit is 1% unless otherwise stated.

**MAS, LLC
PLM ANALYSIS**

Proj#-Spl# M69042 - 010BL **Analyst** Paul Hess **Date** 10/15/2018
ClientName LEVY & KONIGSBERG **ClientSpl** 20180070-86D
Location _____
Type_Mat Johnson & Johnson Talcum Powder
Gross White debris on slide **% of Sample** 100
Visual _____

OPTICAL DATA FOR ASBESTOS IDENTIFICATION

Morphology	straight		
Pleochroism	none		
Refract Index	1.635/1.620		
Sign^	positive		
Extinction	parallel		
Birefringence	moderate		
Melt	no		
Fiber Name	Anthophyllite		

ASBESTOS MINERALS

EST. VOL. %

Chrysotile.....	_____
Amosite.....	_____
Crocidolite.....	_____
Tremolite/Actinolite.....	_____
Anthophyllite.....	< 0.1

OTHER FIBROUS COMPONENTS

_____	_____
_____	_____
_____	_____
_____	_____

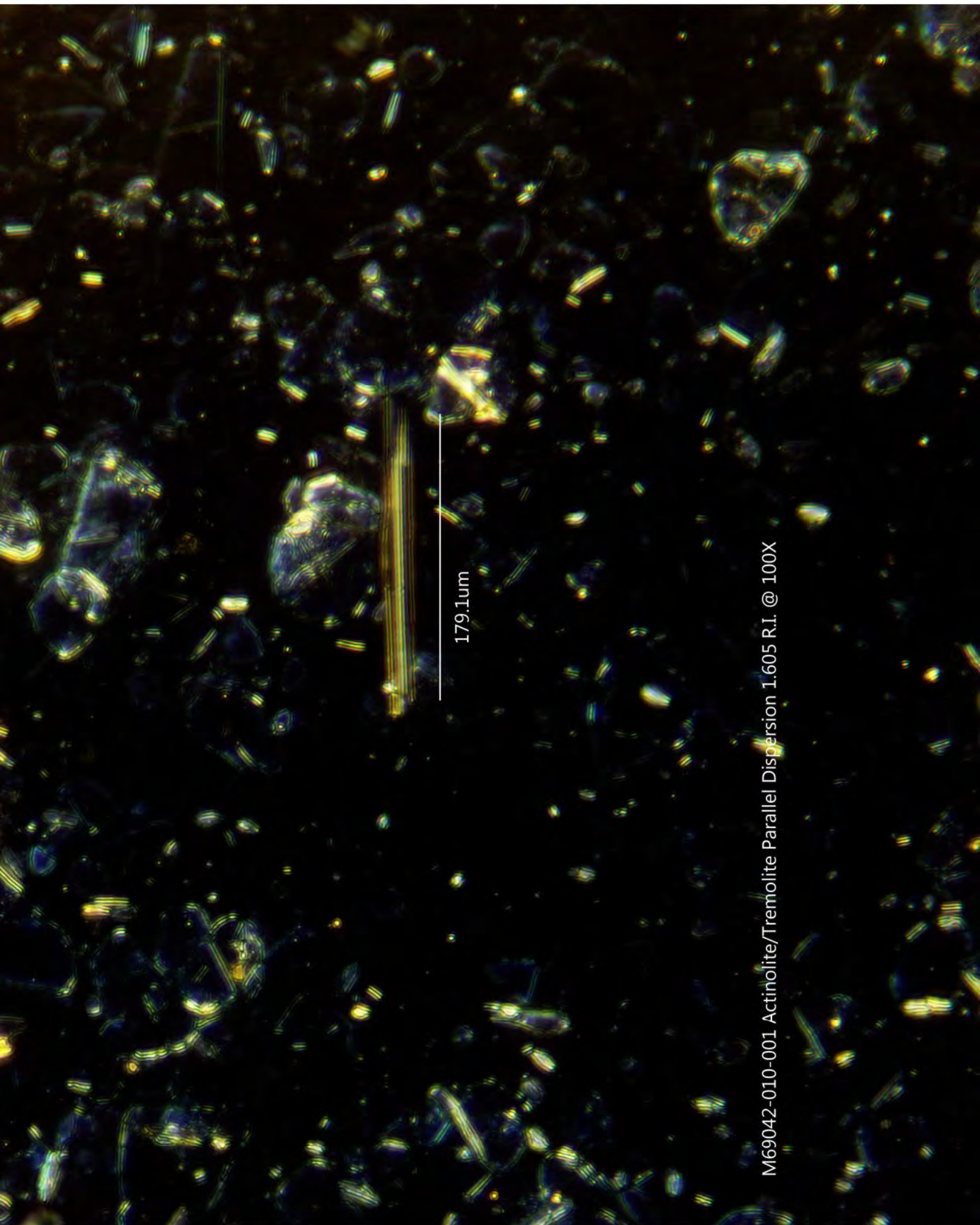
NON FIBROUS COMPONENTS

Opagues	X
Talc	X
Mineral grains	X
_____	_____

Binder Description _____

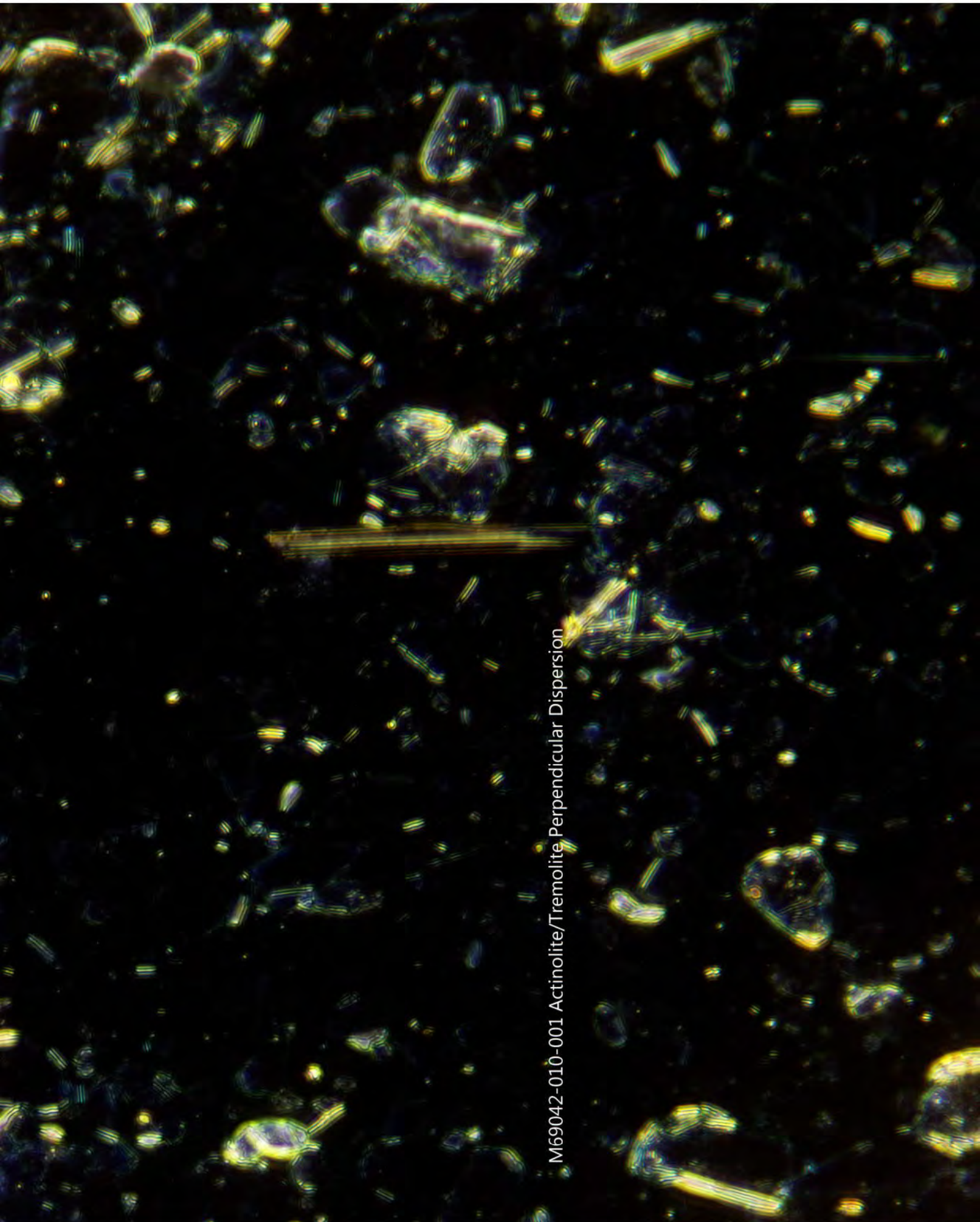
Comments Anthophyllite asbestos observed. Actinolite/Tremolite cleavage fragments/particles
exhibiting a width to length ratio of <3-1 observed. X = Materials detected.

The method detection limit is 1% unless otherwise stated.

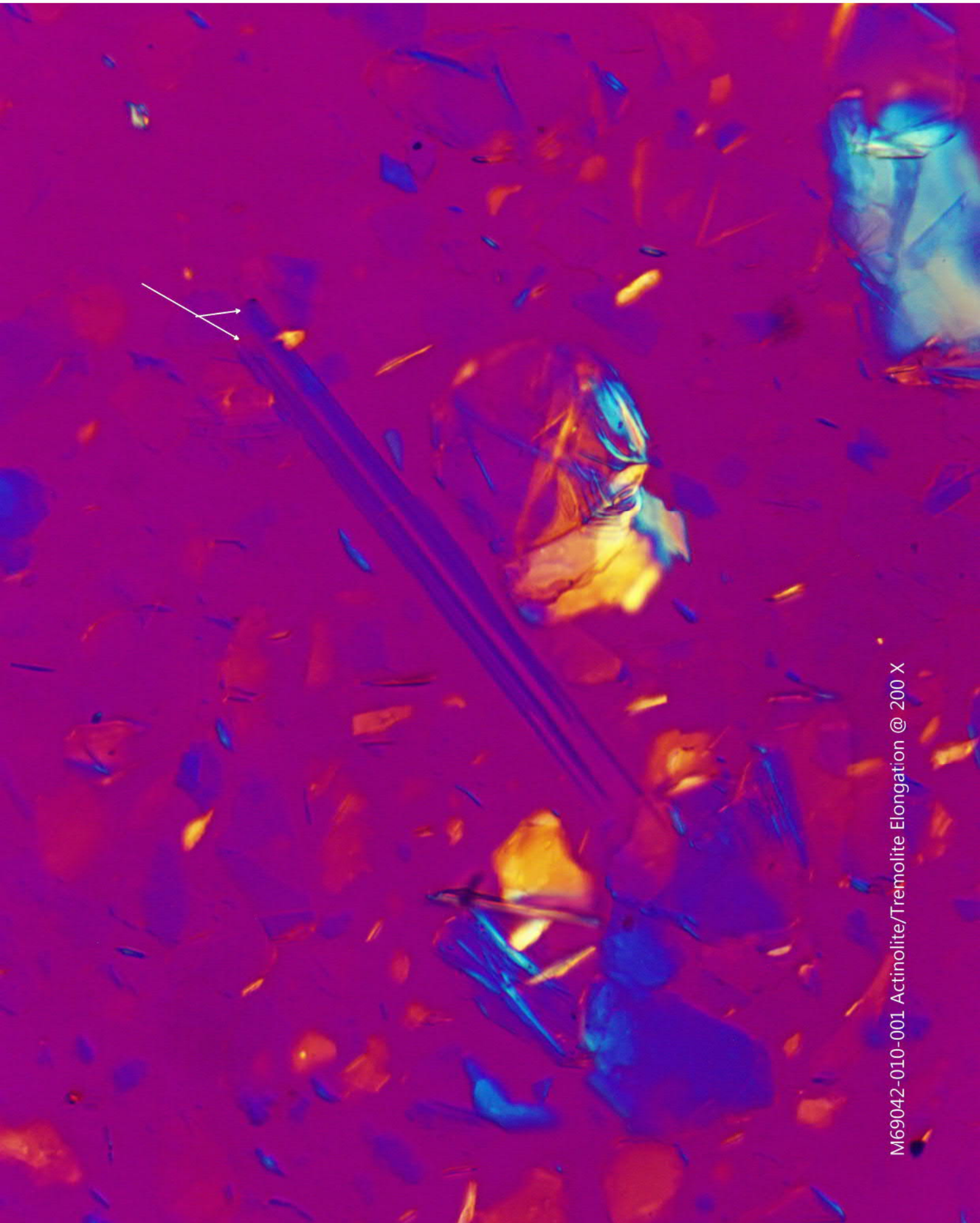


179.1um

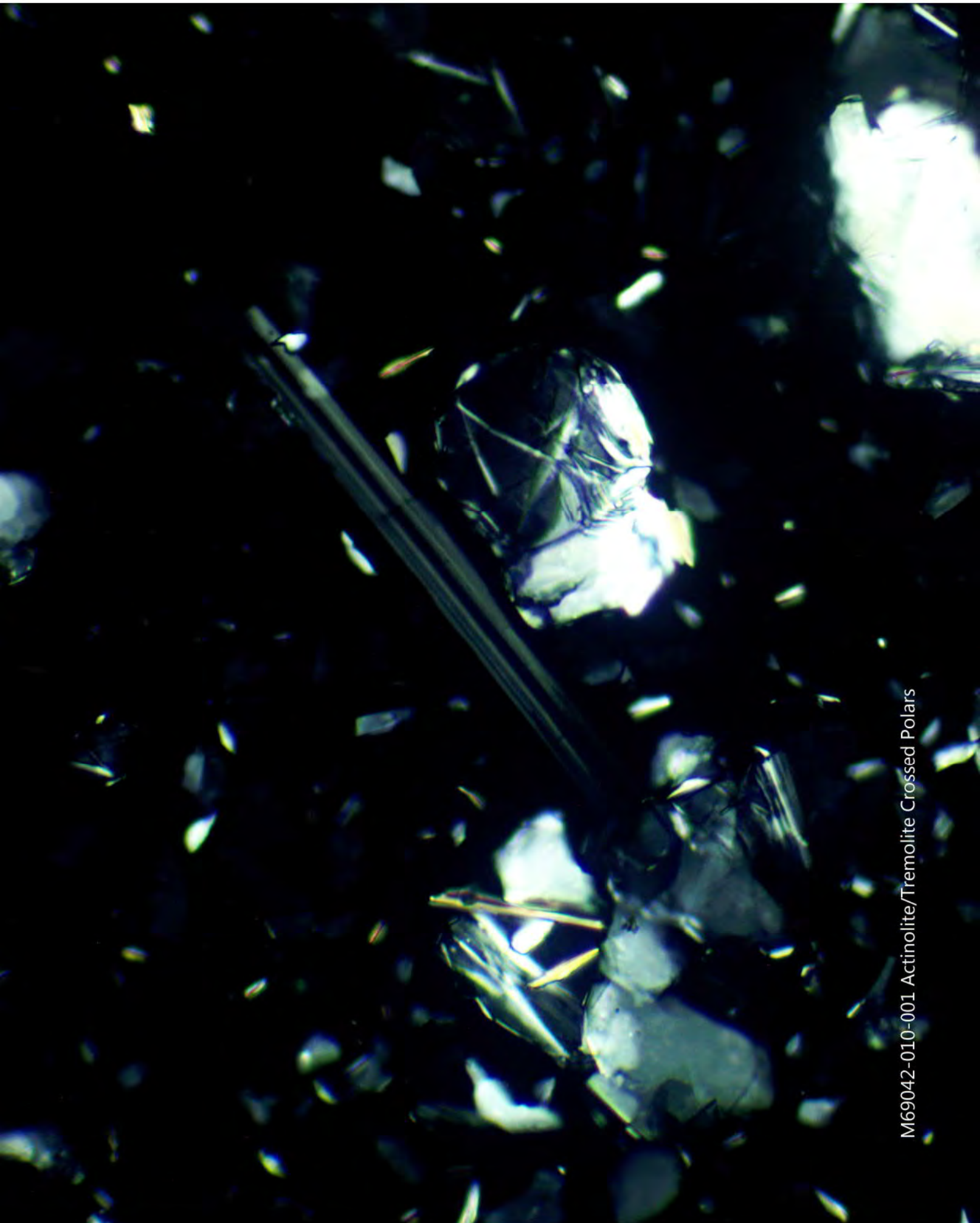
M69042-010-001 Actinolite/Tremolite Parallel Dispersion 1.605 R.I. @ 100X



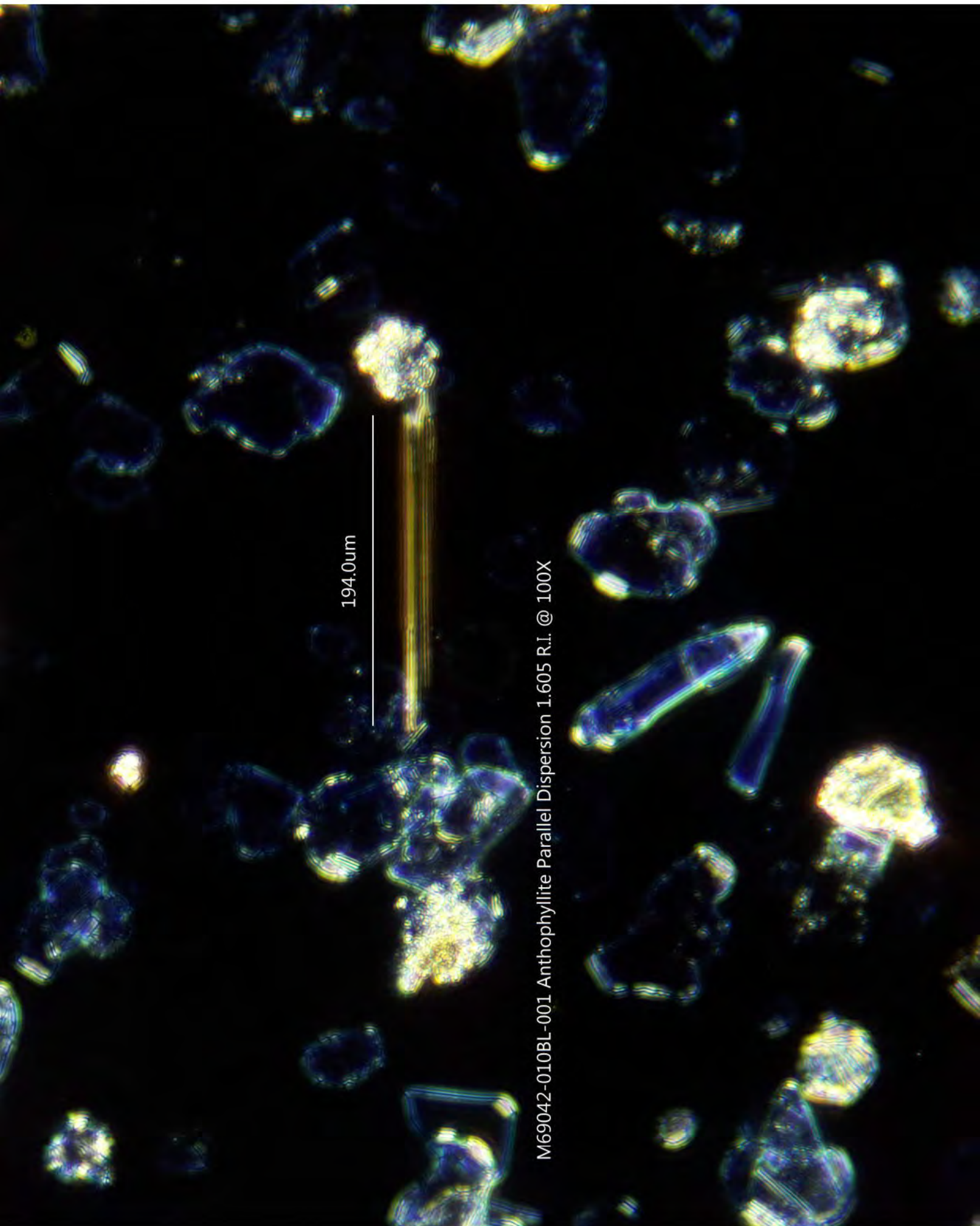
M69042-010-001 Actinolite/Tremolite Perpendicular Dispersion



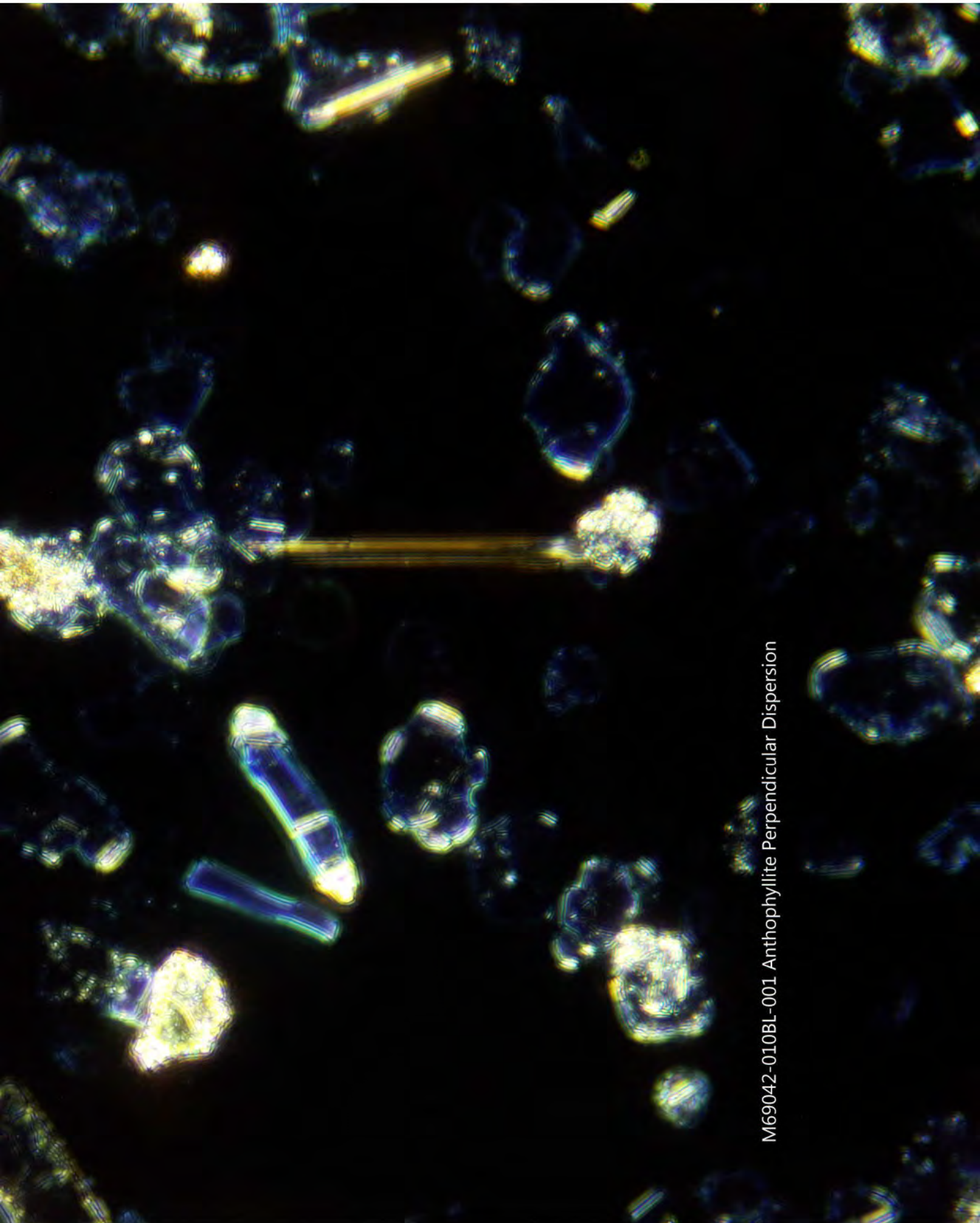
M69042-010-001 Actinolite/Tremolite Elongation @ 200 X



M69042-010-001 Actinolite/Tremolite Crossed Polars



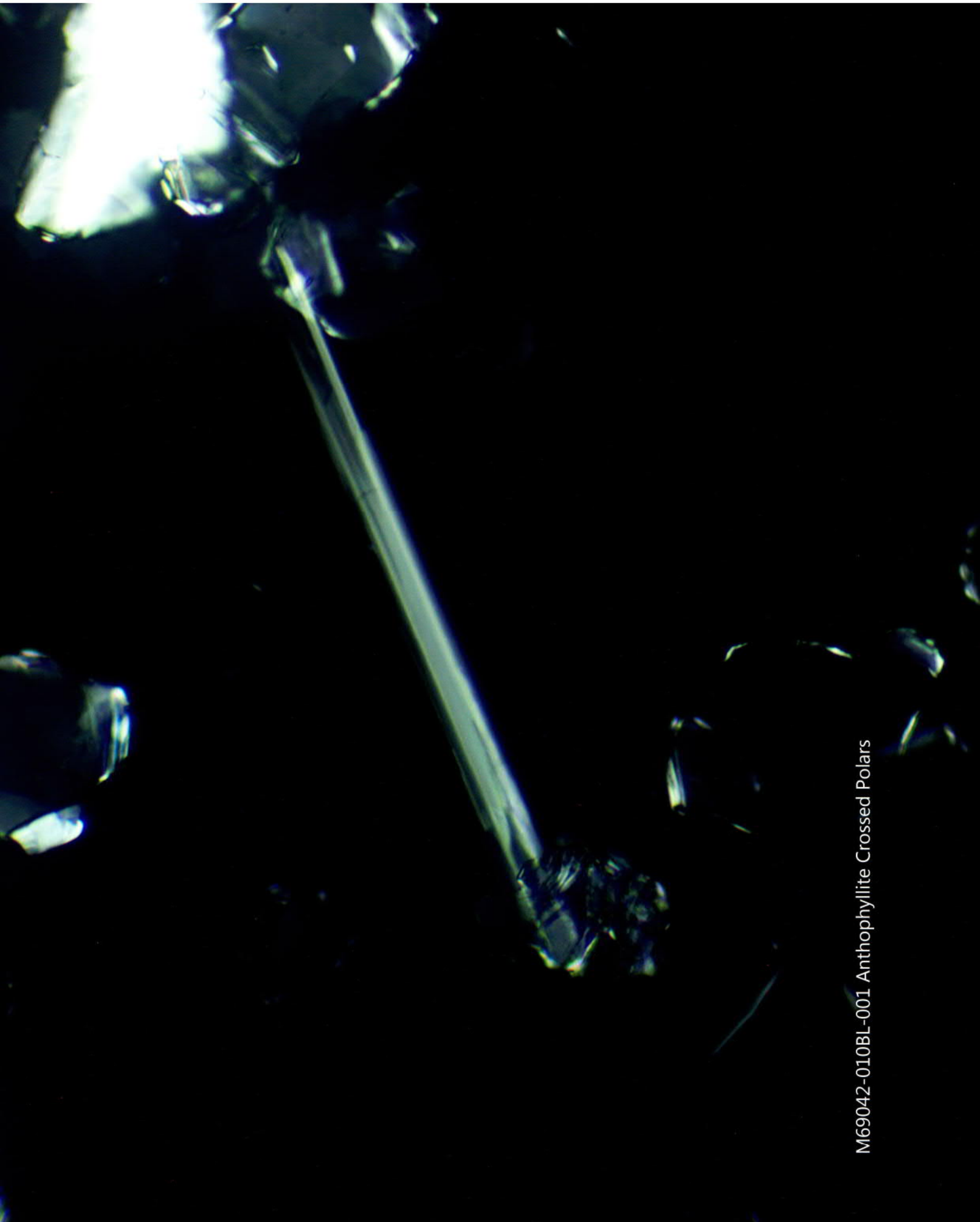
M69042-010BL-001 Anthophyllite Parallel Dispersion 1.605 R.I. @ 100X



M69042-010BL-001 Anthophyllite Perpendicular Dispersion



M69042-010BL-001 Anthophyllite Elongation @ 200X



M69042-010BL-001 Anthophyllite Crossed Polars

TEM Bulk Talc Structure Count Sheet						
Project/ Sample No.	M69042-010		Grid Box #	8633	No. of Grids Counted	2
Analyst:	Jayme Callan			Length	Width	G. O. Area
Date of Analysis	10/19/2018 & 10/29/2018		G. O. in microns =	105	105	11025
Initial Weight(g)	0.02922			105	105	11025
Analysis Type	Post Separation Talc Analysis		Grid Acceptance	Yes	Average	11025
Scope No.	Accelerating Voltage	100 KV	Loading%	20%	G.O.s Counted	100
3	Screen Magnification	20 KX	Area Examined mm²			1.103

Str. #	Grid Opening	Structure	Asbestos Type	Length	Width	Ratio	SAED	EDS
NSD	E1-B1							
NSD	B2							
NSD	B3							
NSD	B4							
NSD	B5							
NSD	B6							
NSD	B7							
NSD	B8							
NSD	B9							
NSD	C1							
NSD	C2							
NSD	C3							
NSD	C4							
NSD	C5							
NSD	C6							
NSD	C8							
NSD	C9							
NSD	C10							
NSD	D1							
NSD	D2							
NSD	D3							
NSD	D7							
NSD	D8							
NSD	D9							
NSD	D10							
NSD	E1							
NSD	E2							
NSD	E6							
NSD	E7							
NSD	E8							
NSD	E9							
NSD	E10							
NSD	F3							
NSD	F4							
1	F5	Bundle	Anthophyllite	9.2	1.5	6.1	X	X
NSD	F6							
NSD	F7							
NSD	F8							
NSD	F9							
NSD	F10							
NSD	G1							
NSD	G2							
NSD	G3							
NSD	G4							
NSD	G5							
NSD	G6							
NSD	G7							
NSD	G8							
NSD	G9							
NSD	G10							

TEM Bulk Talc Structure Count Sheet						
Project/ Sample No.	M69042-010		Grid Box #	8633	No. of Grids Counted	2
Analyst:	Jayme Callan			Length	Width	G. O. Area
Date of Analysis	10/19/2018 & 10/29/2018		G. O. in microns =	105	105	11025
Initial Weight(g)	0.02922			105	105	11025
Analysis Type	Post Separation Talc Analysis		Grid Acceptance	Yes	Average	11025
Scope No.	Accelerating Voltage	100 KV	Loading%	20%	G.O.s Counted	100
3	Screen Magnification	20 KX	Area Examined mm ²			1.103

Str. #	Grid Opening	Structure	Asbestos Type	Length	Width	Ratio	SAED	EDS
NSD	E2-A1							
NSD	A2							
NSD	A3							
NSD	A4							
NSD	A5							
NSD	A6							
NSD	A7							
NSD	A8							
2	A9	Bundle	Anthophyllite	8.9	0.42	21.2	X	X
NSD	A10							
NSD	B1							
NSD	B2							
NSD	B3							
NSD	B4							
NSD	B5							
NSD	B6							
NSD	B7							
NSD	B8							
NSD	B9							
NSD	B10							
NSD	C1							
NSD	C2							
NSD	C3							
NSD	C4							
NSD	C5							
NSD	C6							
NSD	C7							
NSD	C8							
NSD	C9							
NSD	C10							
NSD	D1							
NSD	D2							
NSD	D3							
NSD	D4							
NSD	D5							
NSD	D6							
NSD	D7							
NSD	D8							
NSD	D9							
NSD	D10							
NSD	E1							
NSD	E2							
NSD	E3							
NSD	E4							
NSD	E5							
NSD	E6							
NSD	E7							
NSD	E8							
NSD	E9							
NSD	E10							

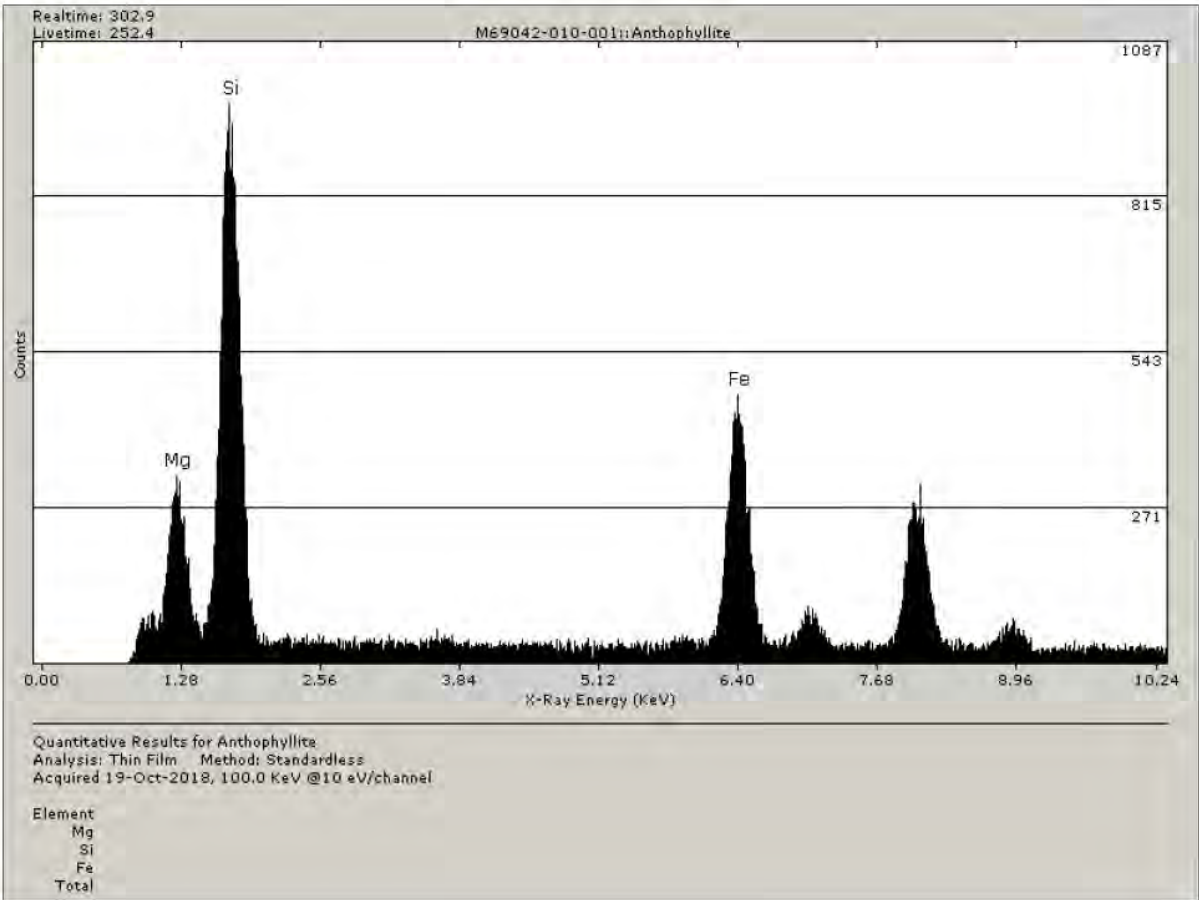
TEM Bulk Talc Structure Count Sheet						
Project/ Sample No.	M69042-010		Grid Box #	8633	No. of Grids Counted	2
Analyst:	Jayme Callan			Length	Width	G. O. Area
Date of Analysis	10/19/2018 & 10/29/2018		G. O. in microns =	105	105	11025
Initial Weight(g)	0.02922			105	105	11025
Analysis Type	Post Separation Talc Analysis		Grid Acceptance	Yes	Average	11025
Scope No.	Accelerating Voltage	100 KV	Loading%	20%	G.O.s Counted	100
3	Screen Magnification	20 KX	Area Examined mm²			1.103

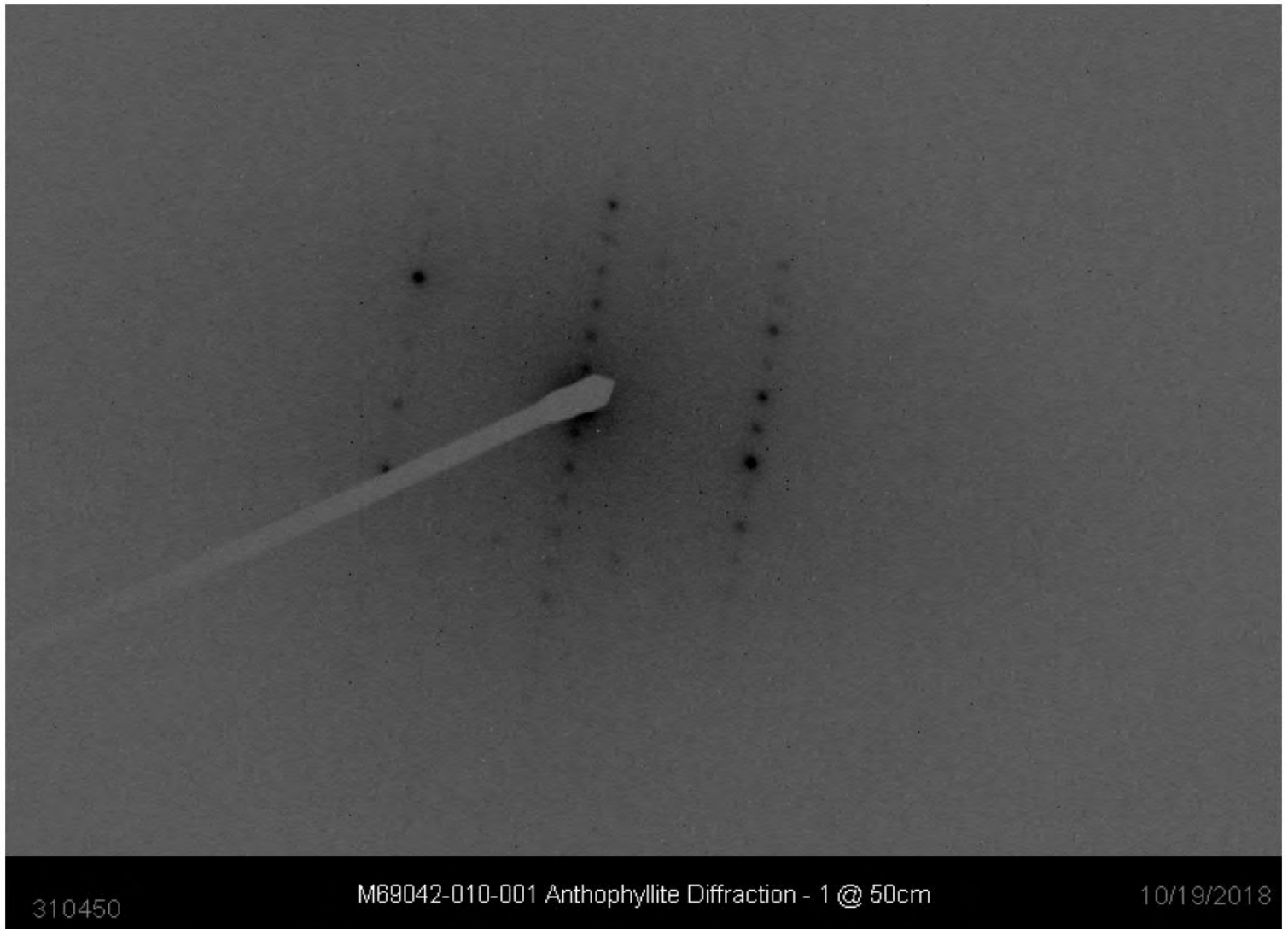
Str. #	Grid Opening	Structure	Asbestos Type	Length	Width	Ratio	SAED	EDS
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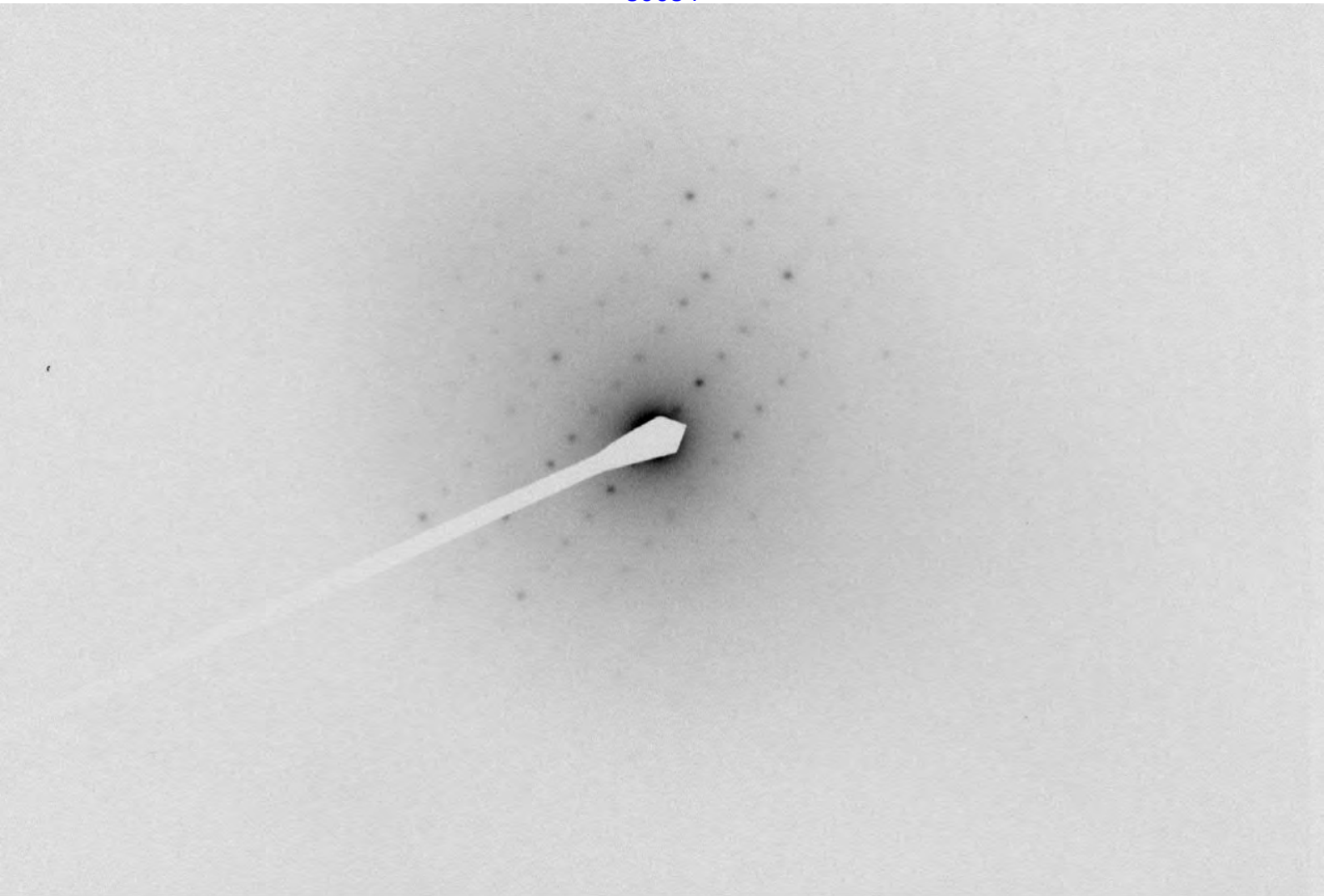
	Sample Wt.
Org. Sample Wt.	Post HL Separation
0.02922	0.02922 g
Percent of Orig. Post Separation	100 (%)

Wt. Of Sample Analyzed	0.00016019 g
Filter size	201.1 mm²
Number of Structures Counted	2 Str.
Structures per Gram of Sample	1.25E+04 Str./g

Detection Limit	6.24E+03 Str./g
Analytical Sensitivity	6.24E+03 Str./g



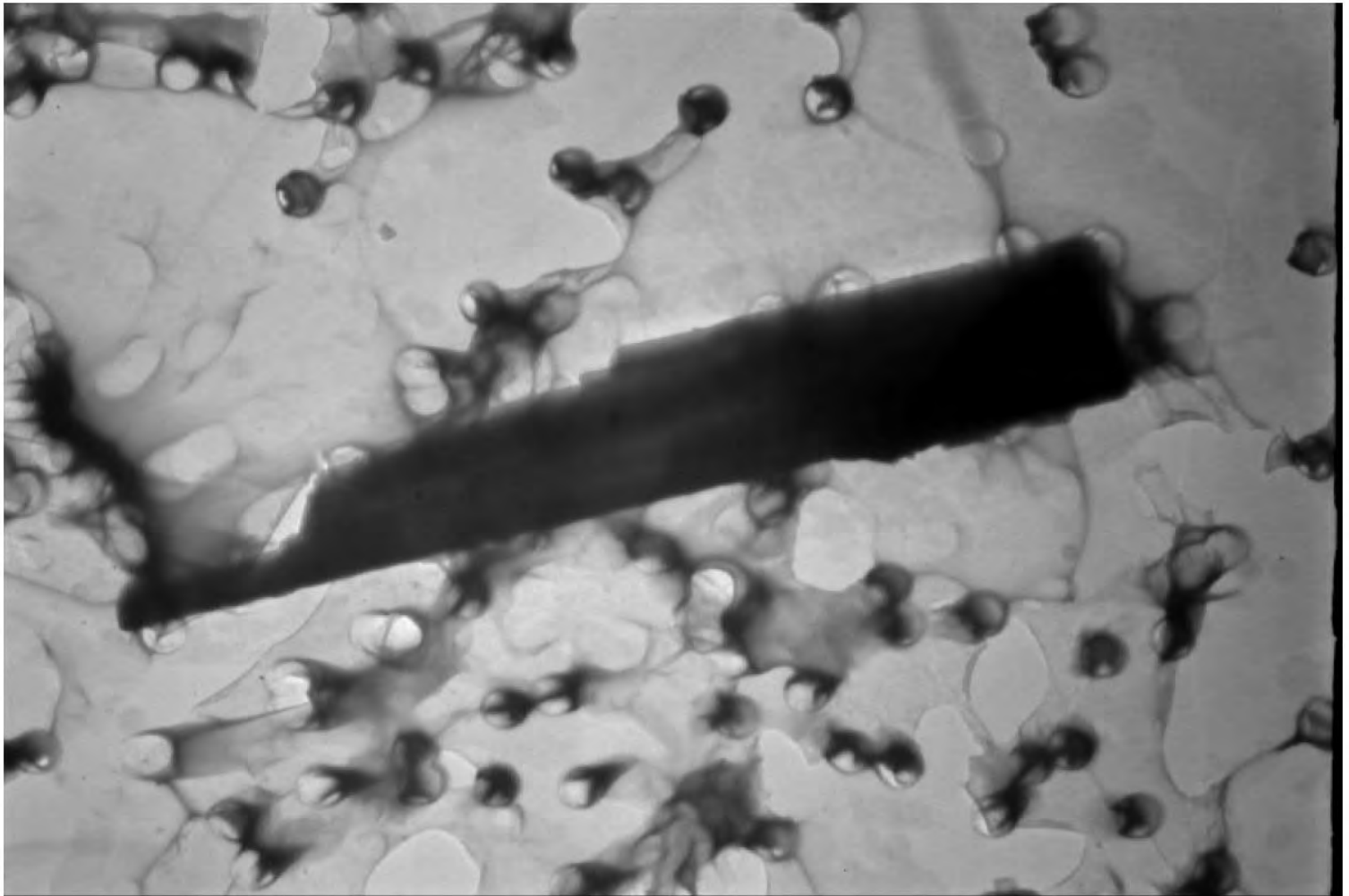




2 4819

M69042-010-001 Anthophyllite Diffraction - 2 @ 50cm

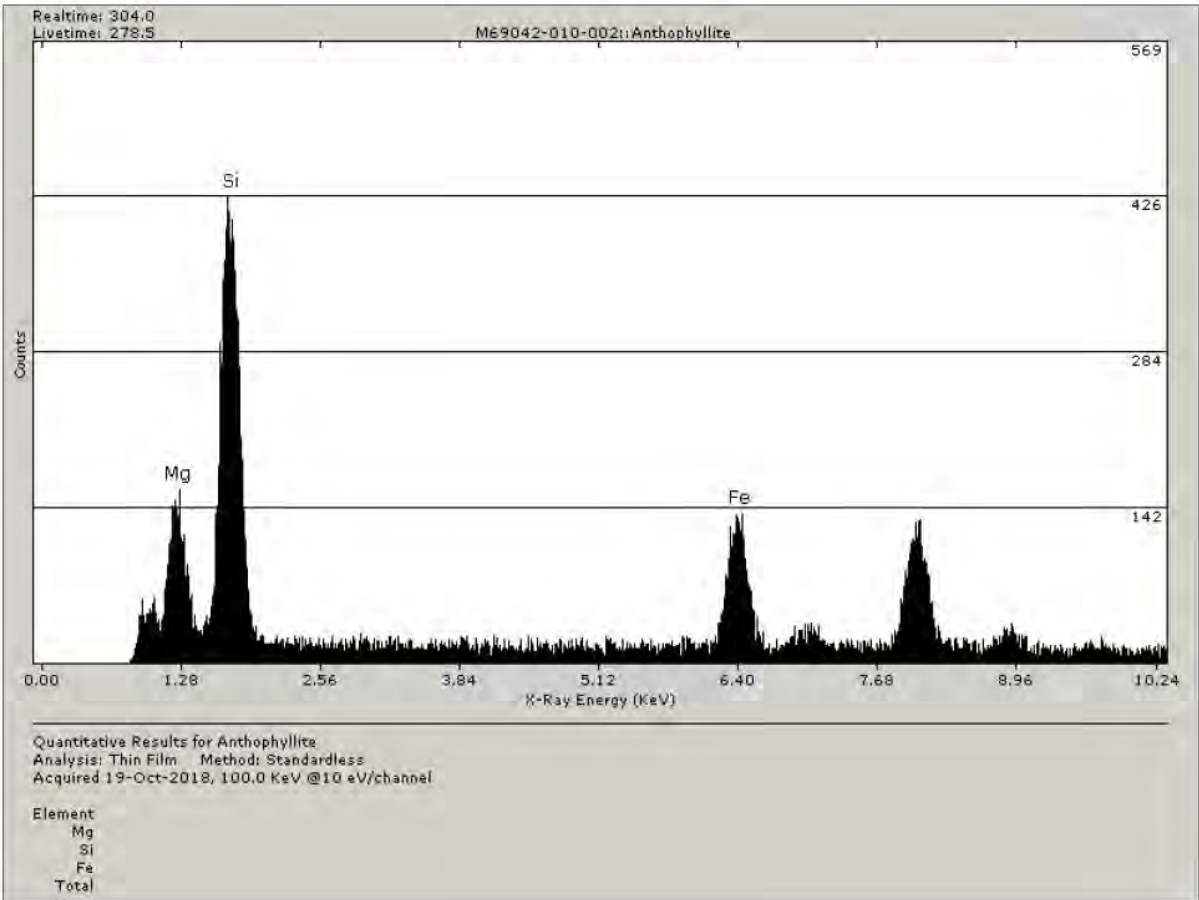
10/29/2018

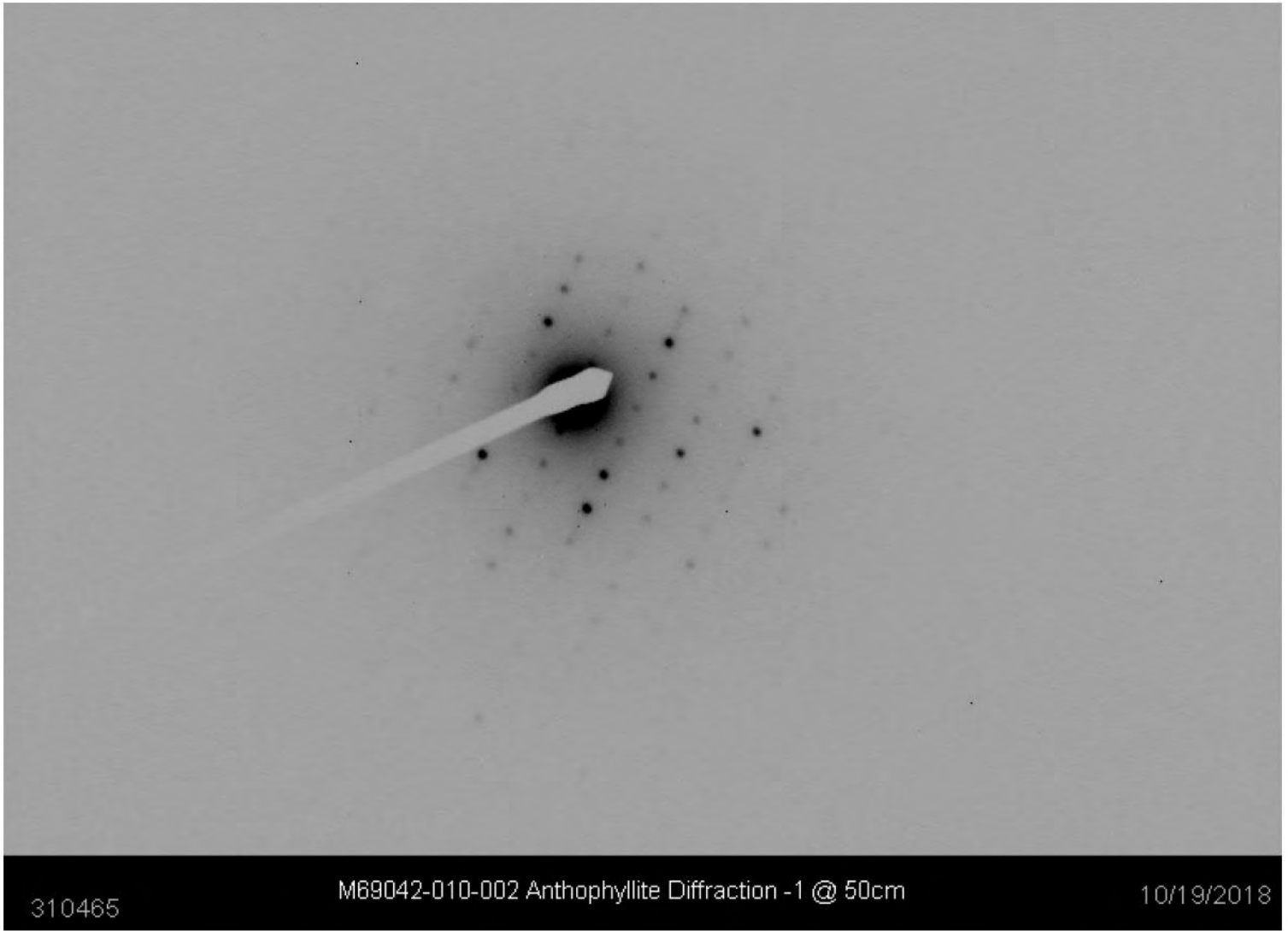


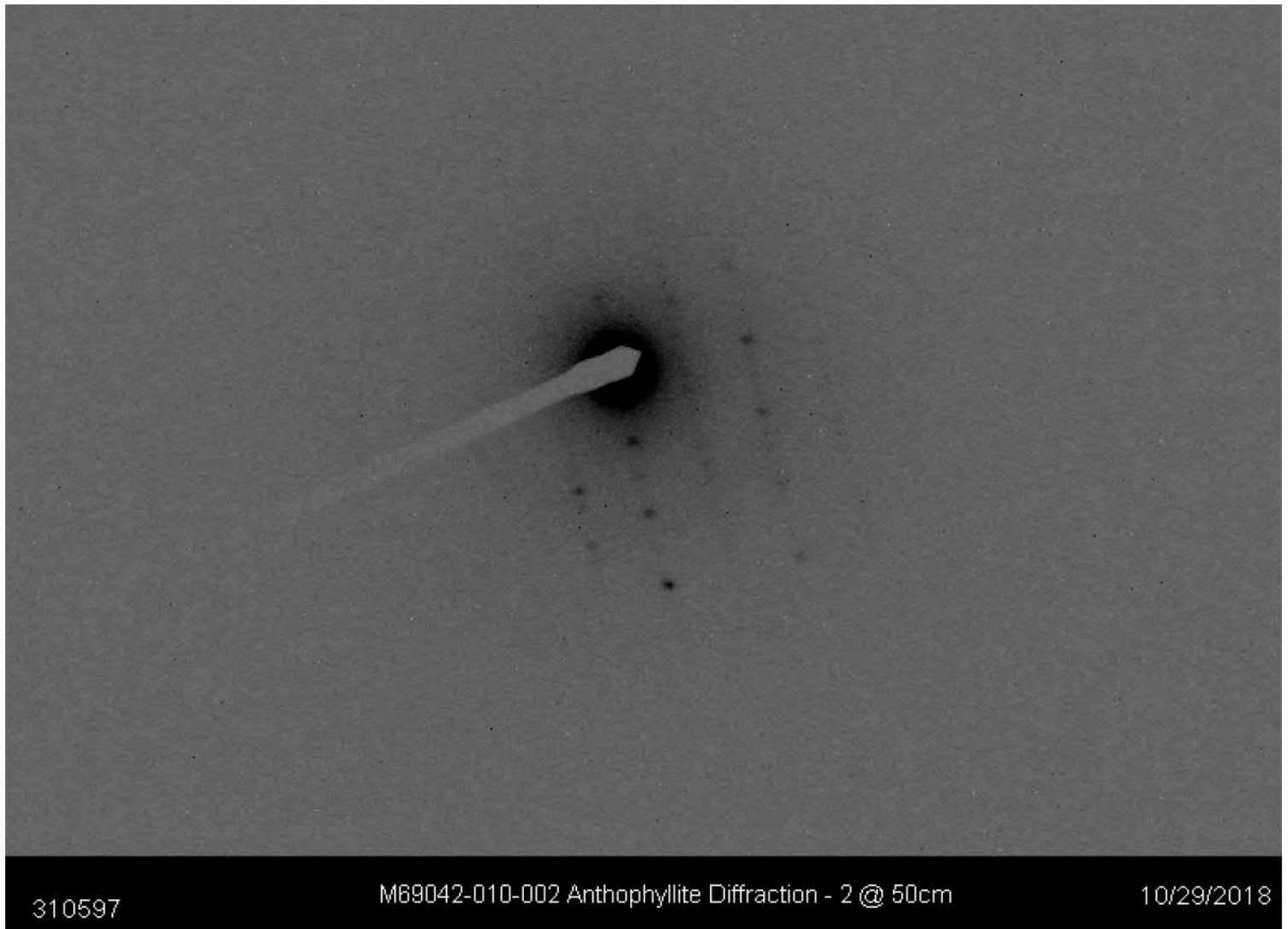
310457

M69042-010-001 Anthophyllite (9.2 um x 1.5 um)

10/19/2018



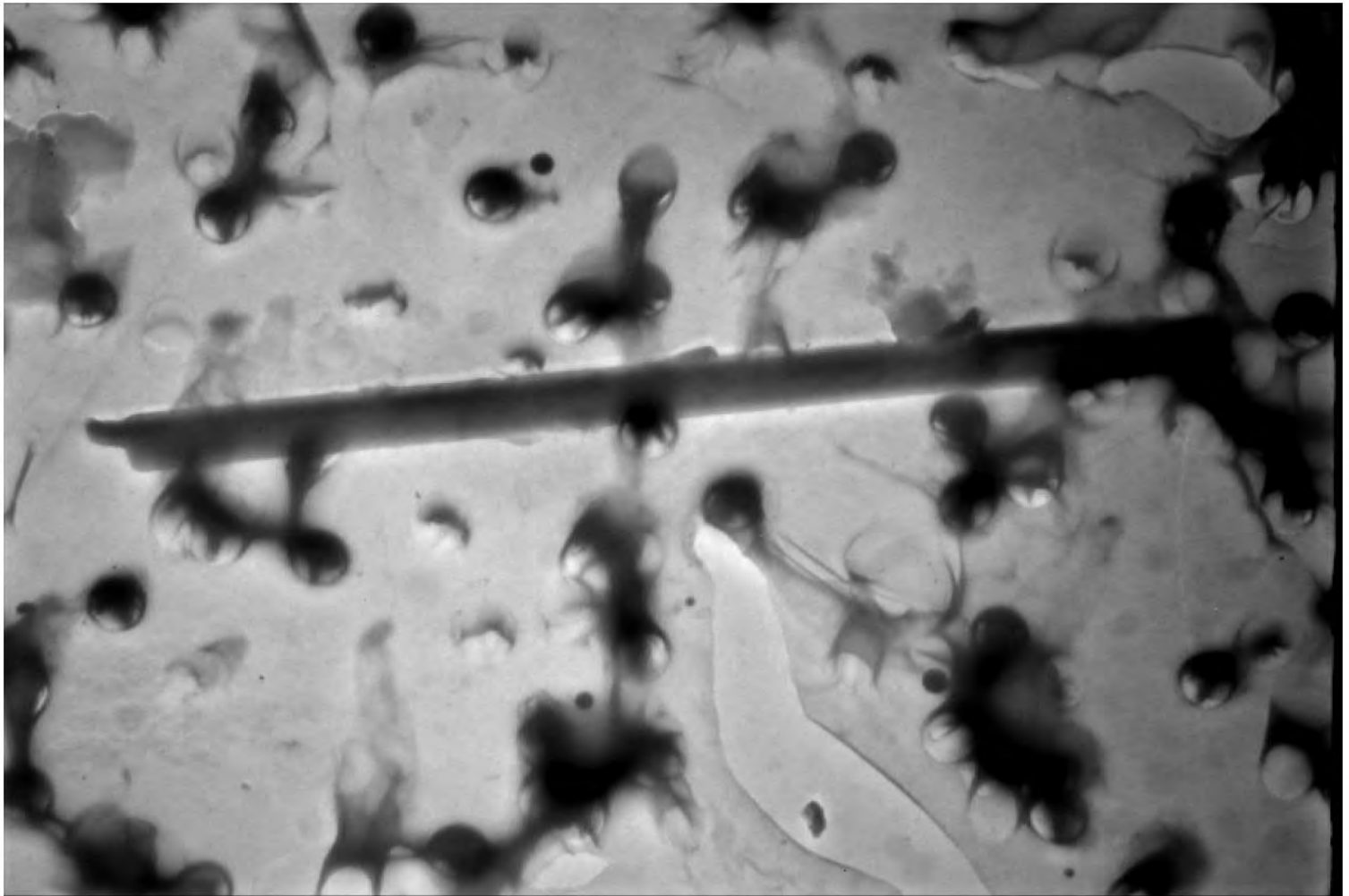




310597

M69042-010-002 Anthophyllite Diffraction - 2 @ 50cm

10/29/2018



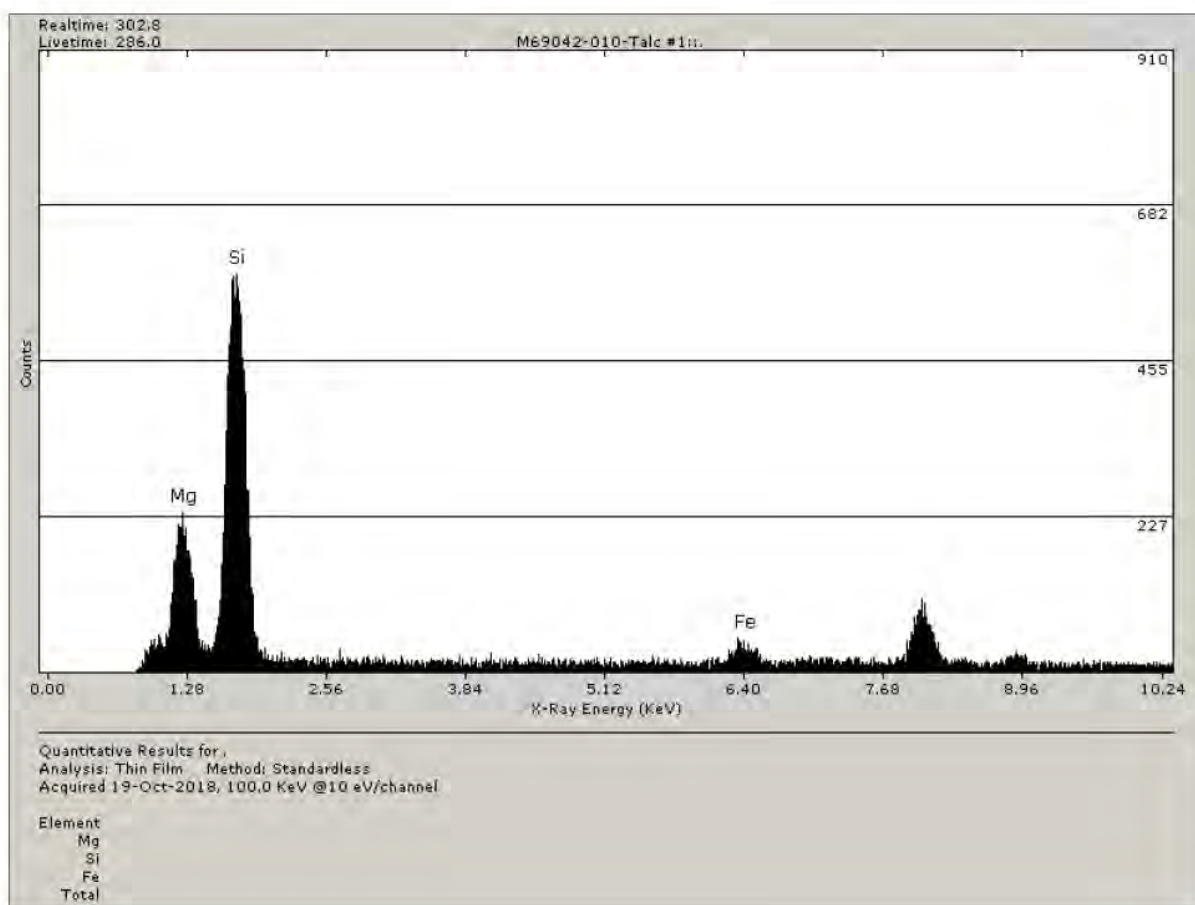
310469

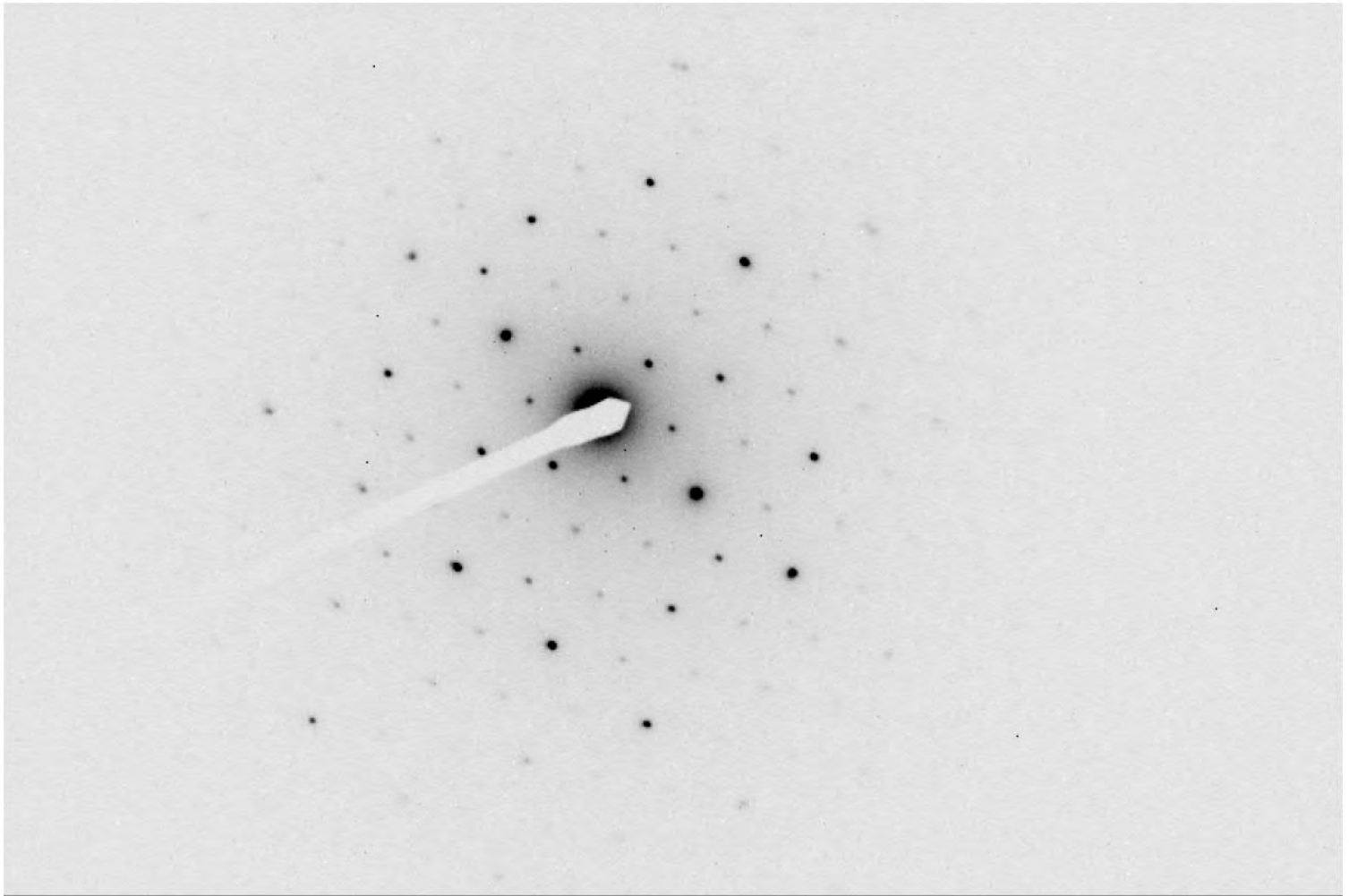
M69042-010-002 Anthophyllite (8.9 μm \times 0.42 μm)

10/19/2018

TEM Bulk Talc Structure Count Sheet							
Project/ Sample No.	M69042-010		Grid Box #	8633	No. of Grids Counted	2	
Analyst:	Jayme Callan			Length	Width	G.O. Area	
Date of Analysis	10/19/2018 & 10/29/2018		G. O. in microns =	105	105	105	
Initial Weight(g)	0.02922			105	105	105	
Analysis Type	Post Separation Talc Analysis		Grid Acceptance	Yes	Average	11025	
Scope No.	Accelerating Voltage	100 KV	Loading%	20%	G.O.s Counted	100	
3	Screen Magnification	20 KX	Area Examined mm ²			1.103	

Str. #	Grid Opening	Str./Asb. Type	Length	Width	Ratio	SAED	EDS
Talc #1	E2-E1	Fibrous Talc	12.3	1.8	6.8	Fibrous talc observed Trace throughout	

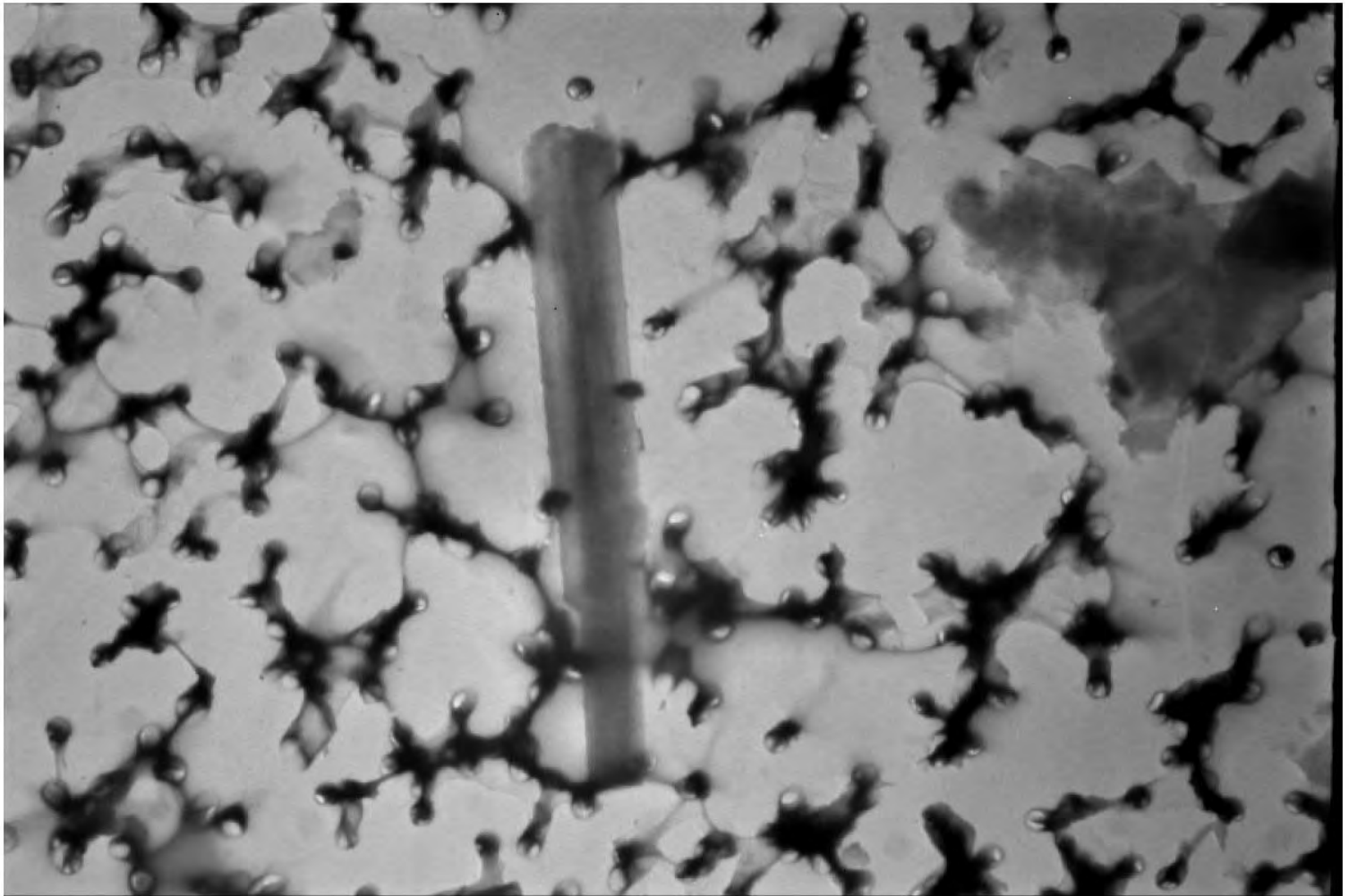




310471

M69042-010-Talc #1 Diffraction @ 50cm

10/19/2018



310472

M69042-010-Talc #1 (12.3 um x 1.8 um)

10/19/2018

Section 13

**MAS, LLC
PLM ANALYSIS**

Proj#-Spl# M69680 - 015BL **Analyst** Paul Hess **Date** 12/11/2018
ClientName J3 Resources **ClientSpl** 20180061-31F
Location _____
Type_Mat Shower to Shower Talc
Gross White debris on slide **% of Sample** 100
Visual _____

OPTICAL DATA FOR ASBESTOS IDENTIFICATION

Morphology	straight	straight	
Pleochroism	none	none	
Refract Index	1.633/1.619	1.641/1.628	
Sign^	positive	positive	
Extinction	oblique	parallel	
Birefringence	medium	medium	
Melt	no	no	
Fiber Name	Actinolite/Tremolite	Anthophyllite	

ASBESTOS MINERALS

EST. VOL. %

Chrysotile.....
Amosite.....
Crocidolite.....
Tremolite/Actinolite..... 0.3
Anthophyllite..... <0.1

OTHER FIBROUS COMPONENTS

Talc -B/Y DS in 1.55 ***

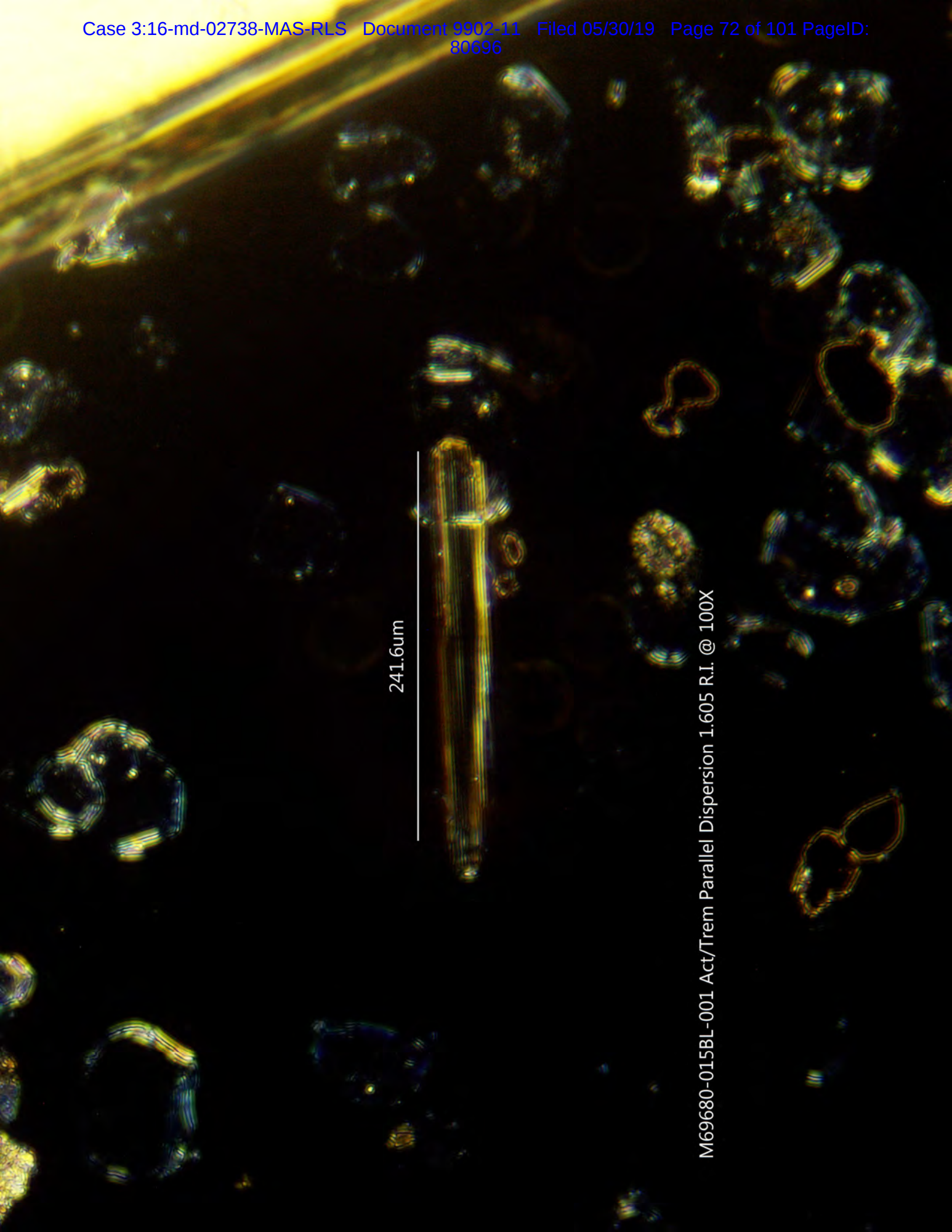
NON FIBROUS COMPONENTS

Opagues X
Talc X
Mineral grains X

Binder Description _____

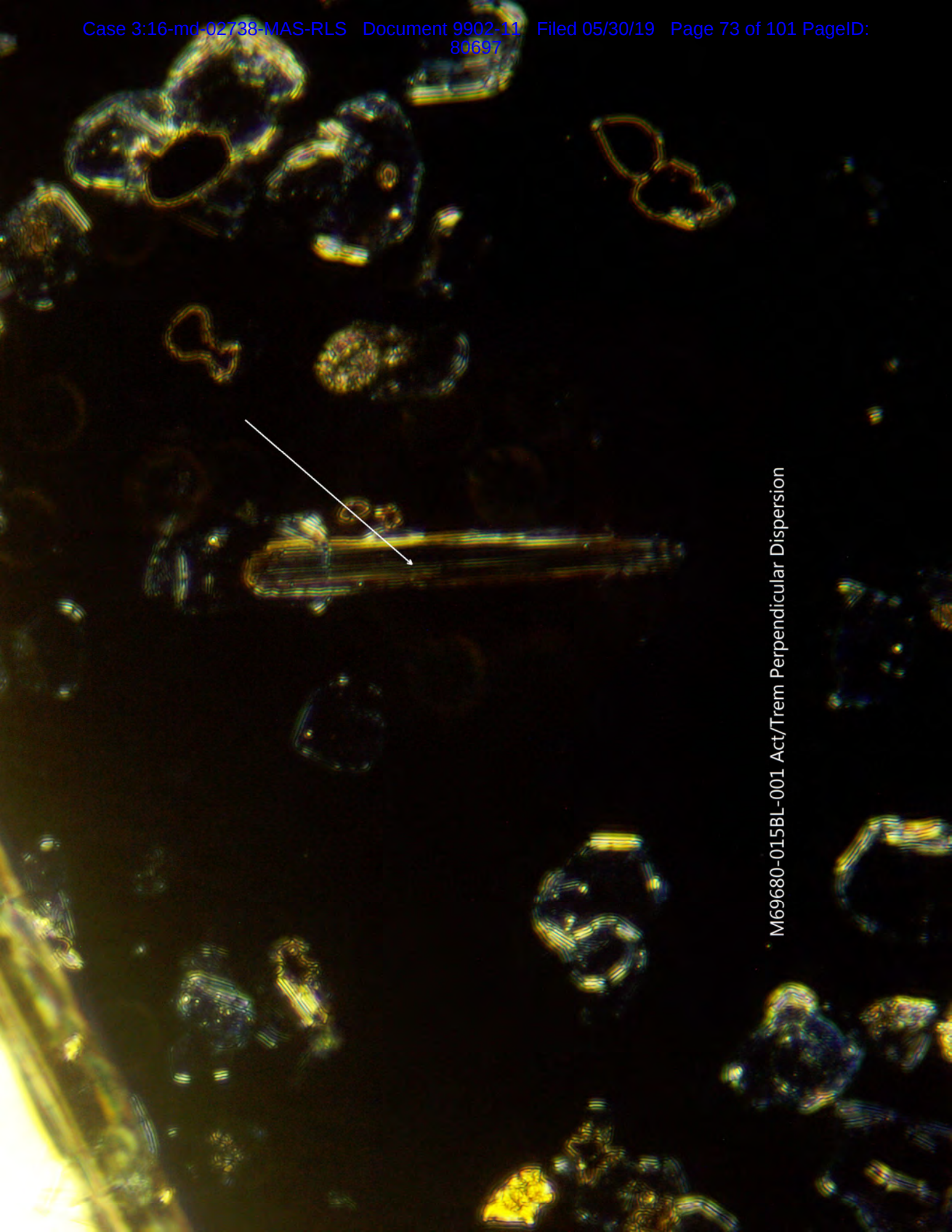
Comments Actinolite/Tremolite and Anthophyllite asbestos observed. *** Moderate amount of fibrous Talc observed. X = Materials detected.

The method detection limit is 1% unless otherwise stated.



241.6um

M69680-015BL-001 Act/Trem Parallel Dispersion 1.605 R.I. @ 100X

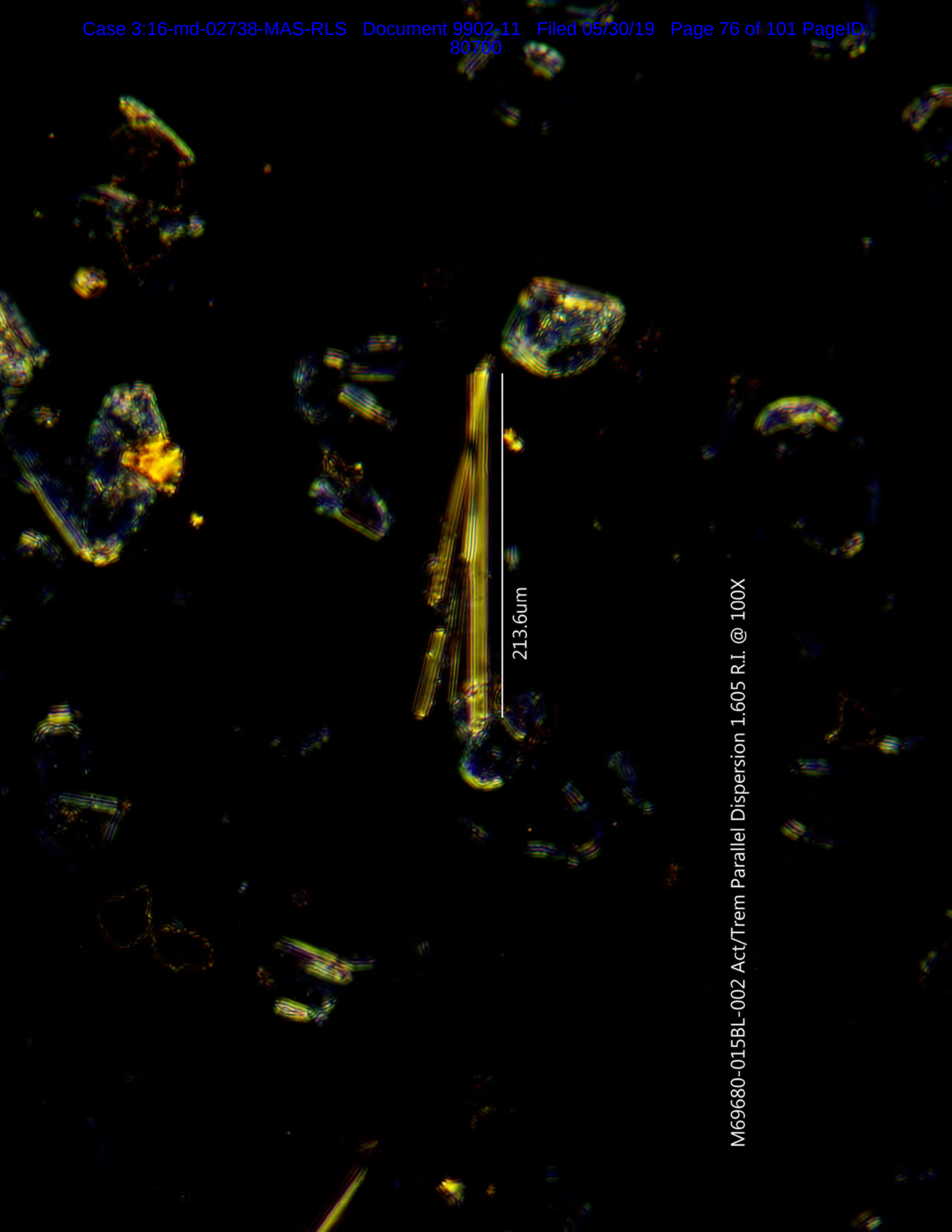


M69680-015BL-001 Act/Trem Perpendicular Dispersion

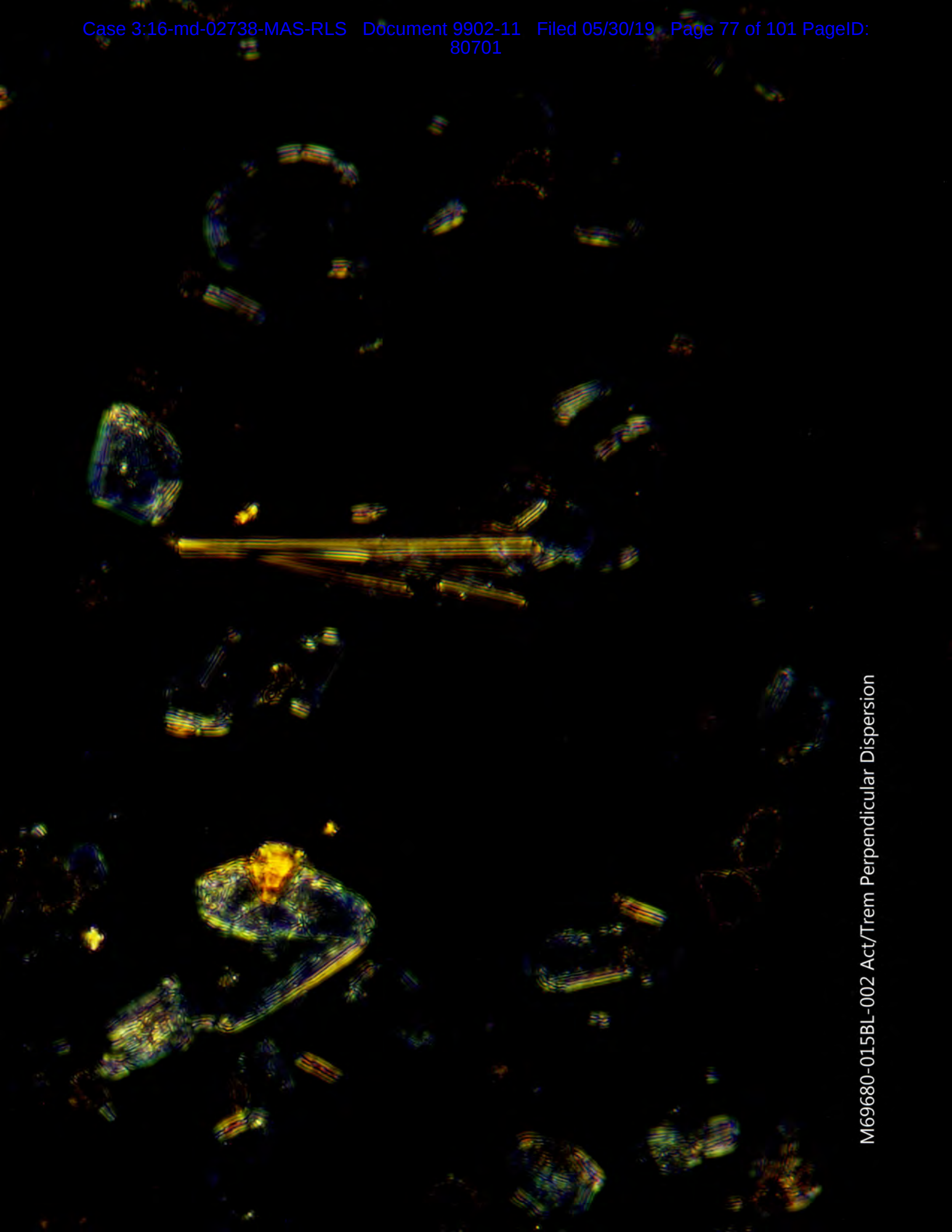


M69680-015BL-001 Act/Trem Elongation @ 200X

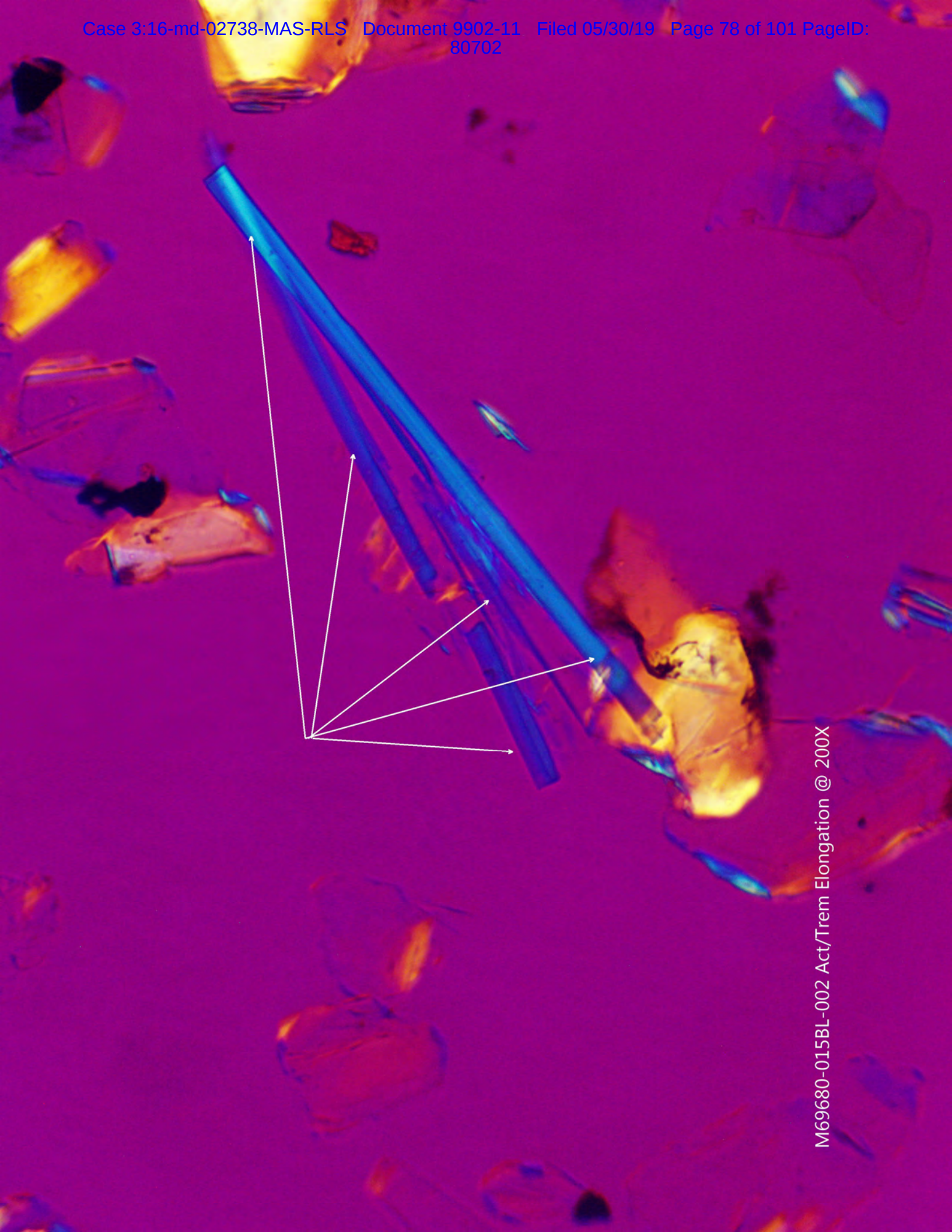
M69680-015BL-001 Act/Trem Crossed Polars



M69680-015BL-002 Act/Trem Parallel Dispersion 1.605 R.I. @ 100X

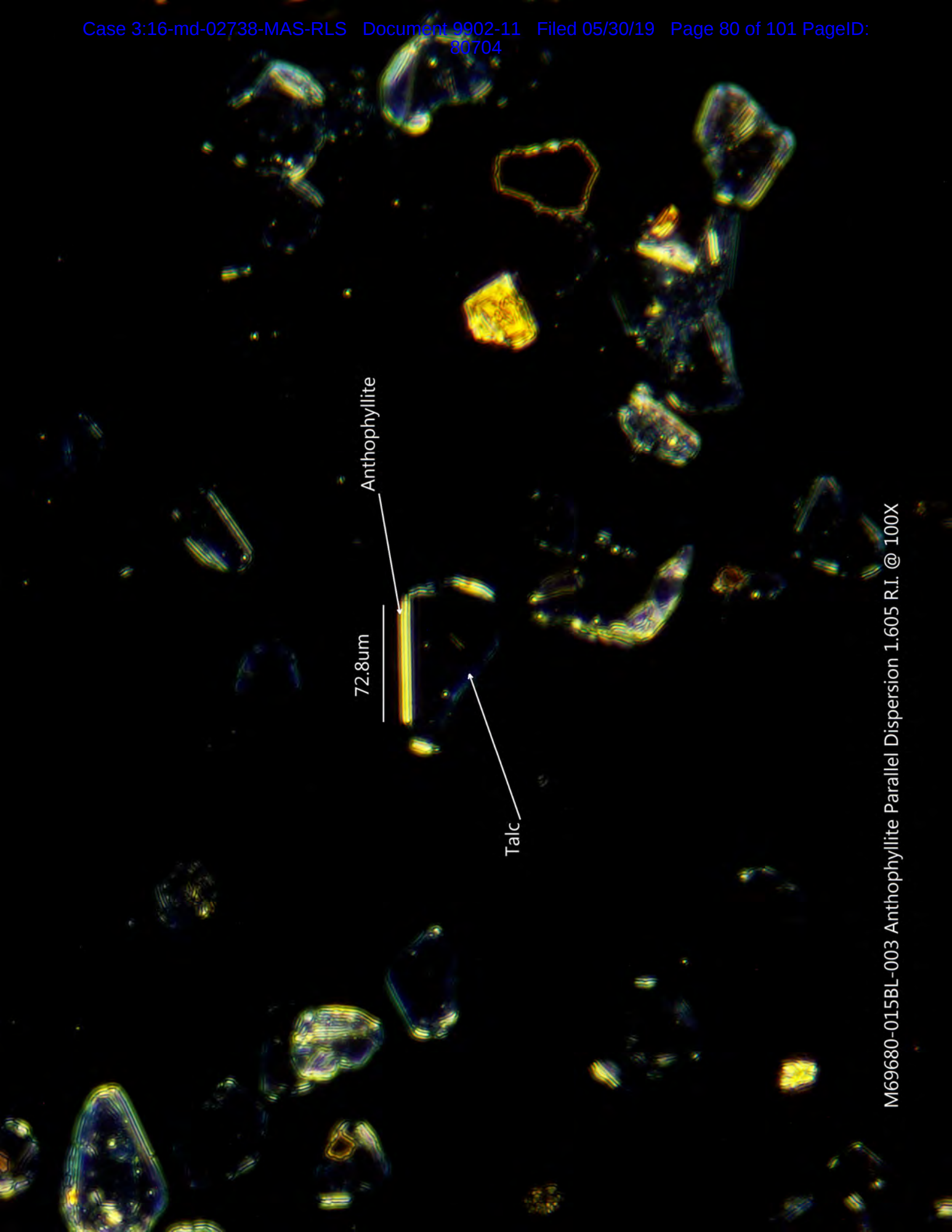


M69680-015BL-002 Act/Trem Perpendicular Dispersion



M69680-015BL-002 Act/Trem Elongation @ 200X

M69680-015BL-002 Act/Trem Crossed Polars

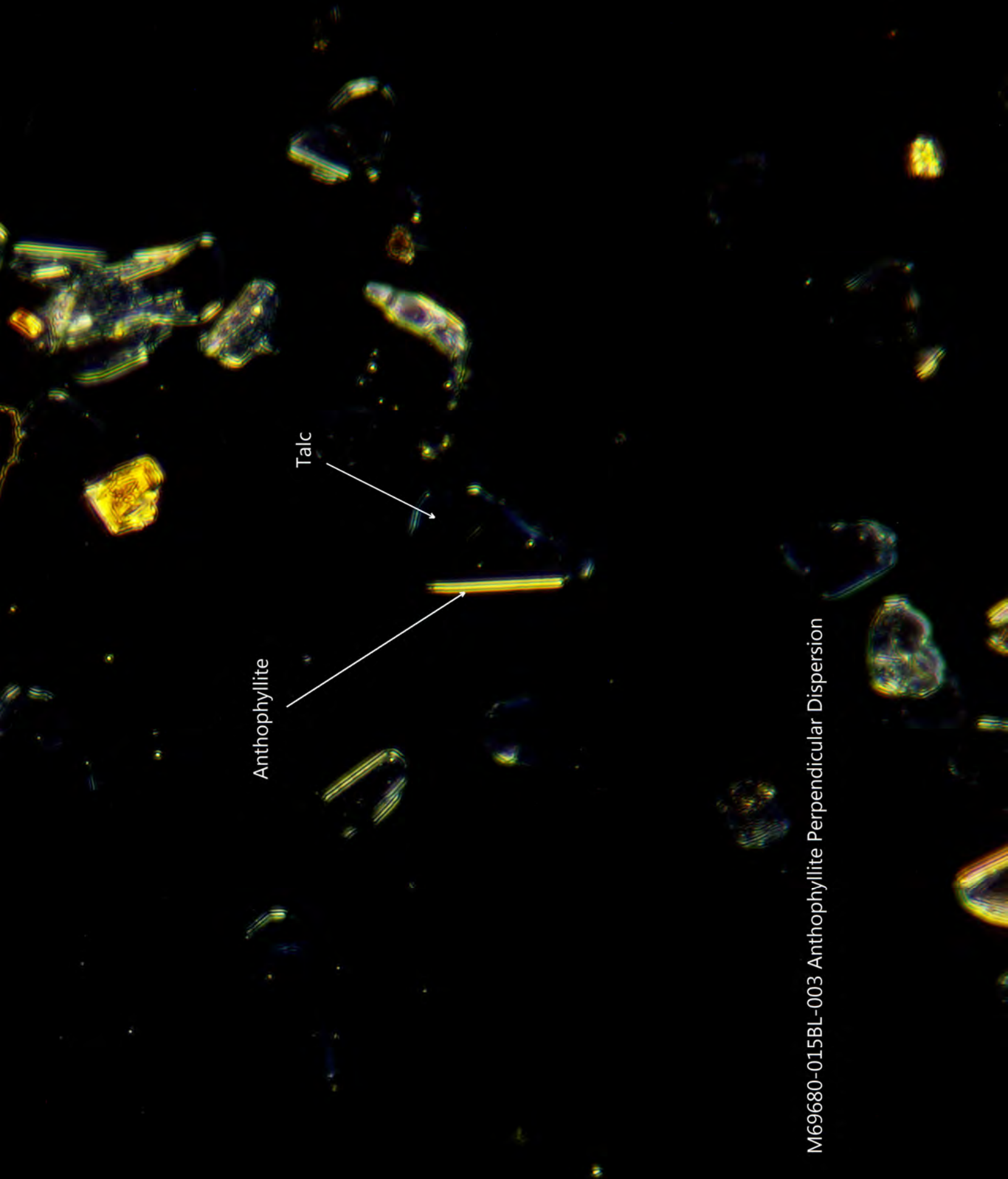


Anthophyllite

72.8um

Talc

M69680-015BL-003 Anthophyllite Parallel Dispersion 1.605 R.I. @ 100X

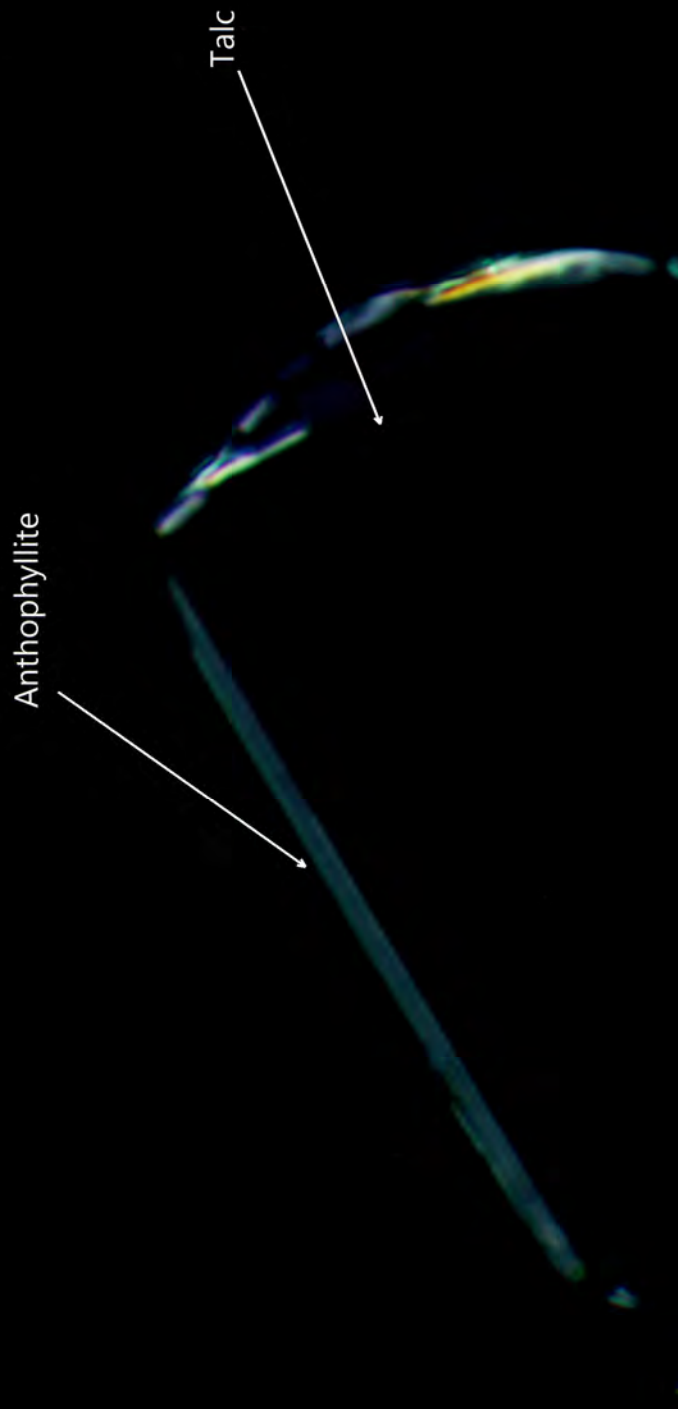


M69680-015BL-003 Anthophyllite Perpendicular Dispersion

Talc

Anthophyllite

M69680-015BL-003 Anthophyllite Elongation @ 400X

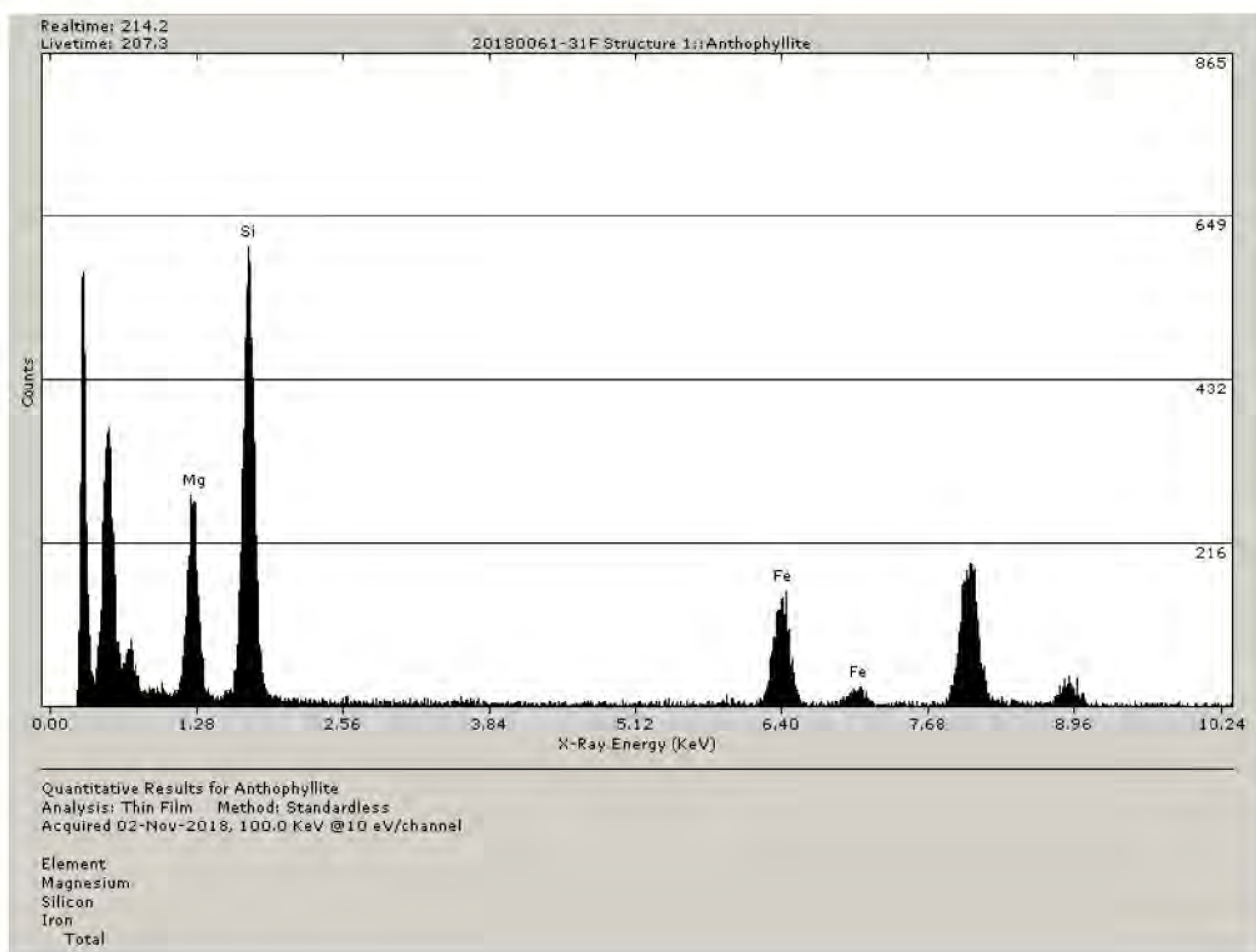


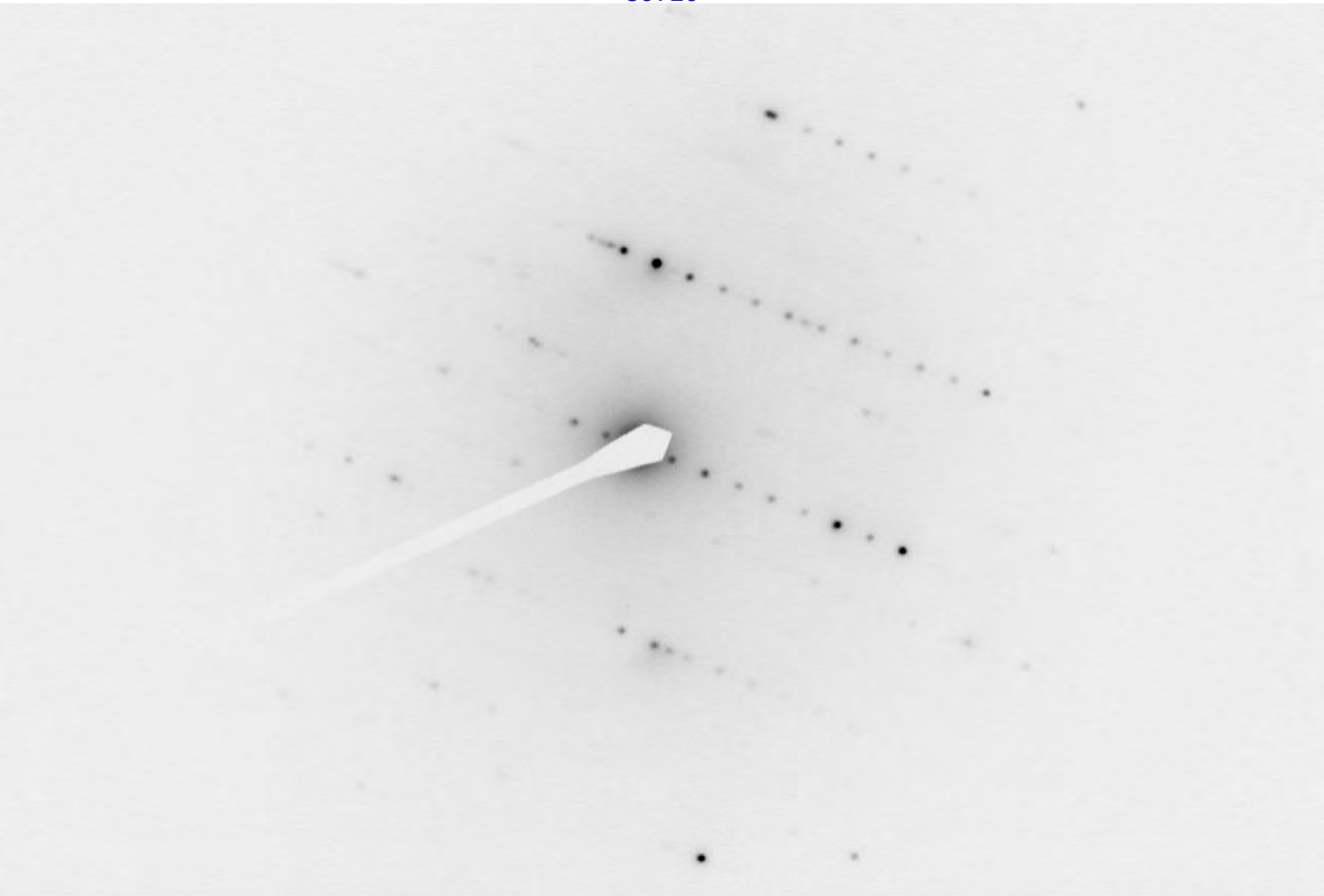
Grid Square ID: 60CSJ-1, -2

1-BZ

PG. 1 of 1

M:\Main Company Data Store\K\SY\QA\QAQC\TEM QC Templates\Verified Anlaysia Count Sheet 10-23-14.pdf

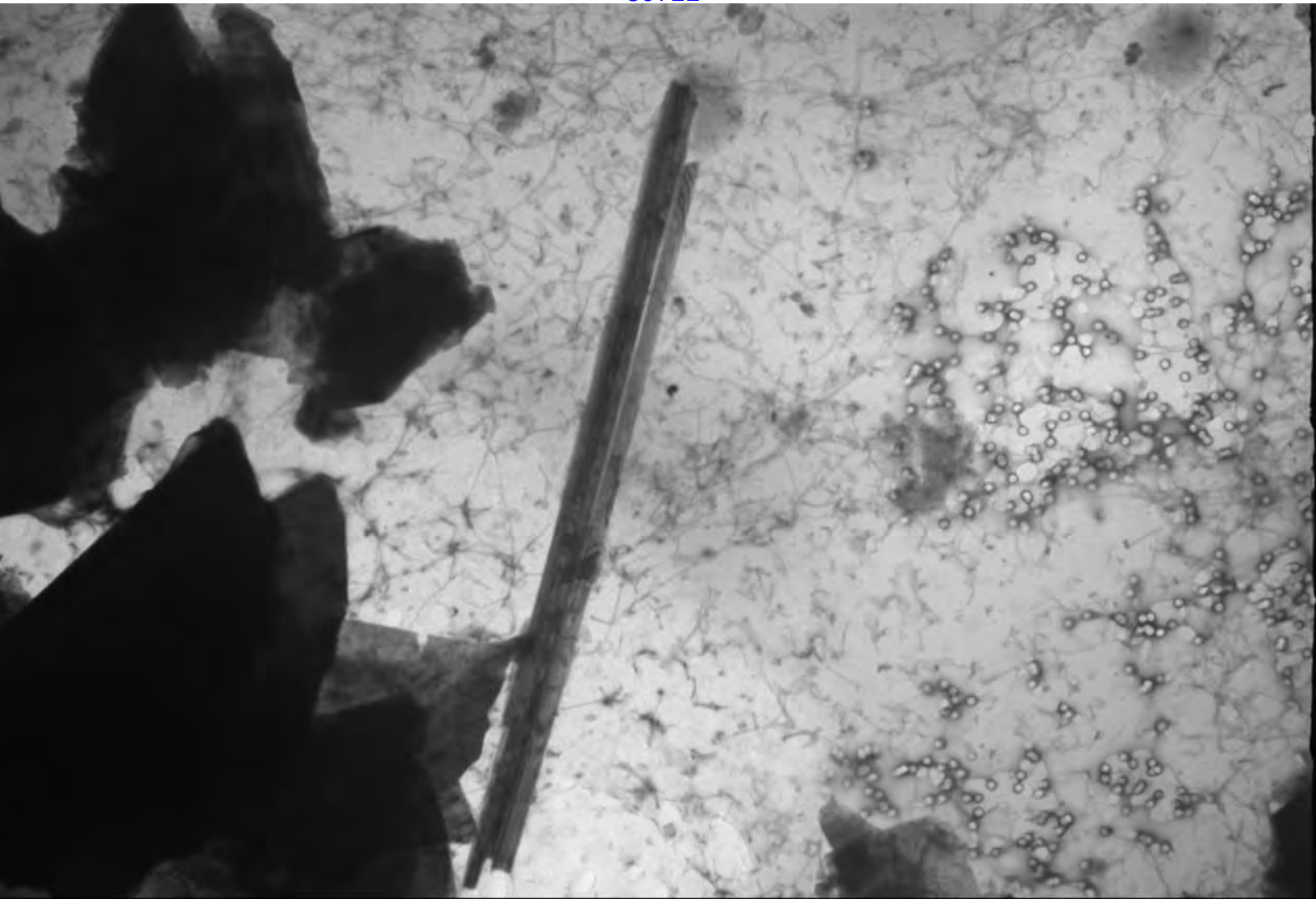




2 5058

20180061-31F Structure 1 Anthophyllite Diffraction @ 50cm

11/2/2018



2 5057

20180061-31F Structure 1 Anthophyllite (21.6 um x 1.3 um)

11/2/2018



Determination of Asbestos in Talc by ATEM

ISO 22262-2:2014

Sample 20180061-31F

J3 Order #: JH1898969

Analyst: Lee Poye

Customer: Joseph Satterley, Esq.

Date: 10-Jul-2018

Weight of Sample*: 0.0179 g
Percent of Original Sample*: 67%
Suspension Volume: 1.5 mL
Filtered Suspension Volume: 0.1 mL

Filter Size: 25 mm
Filter Pore Size: 0.2 μm
Area of Analytical Filter: 210 mm²
GO Size: 0.0132 mm²
GO Area Analyzed: 1.056 mm²

Results Summary

Asbestos Structure Number	Length (μm)	Width (μm)	Aspect Ratio	Asbestos Type
1	43	2	21.5	Anthophyllite
2	4.5	0.25	18	Anthophyllite
3	7	0.5	14	Anthophyllite
AVERAGE	18.2	0.92	19.8	

Total Asbestos Structures: 3
Anthophyllite Density: 3000 kg/m³
Cross-section Shape Factor (Amphibole): 0.5

Asbestos Mass Fraction: 0.0044%
Asbestos Mass Fraction of Original Sample: 0.0029%

* Sample was previously gravimetrically reduced.

LAB WORKSHEET

Analyst: Lee Poye
Date: 10-Jul-2018
Page: 1 of 3

Page 187 of 268

LAB WORKSHEET

Analyst: Lee Poye
Date: 10-Jul-2018
Page: 2 of 3

Page 188 of 268

LAB WORKSHEET

Page: 3 of 3

[illegible]



Sample 20180061-31F Structure 1 - Morphology



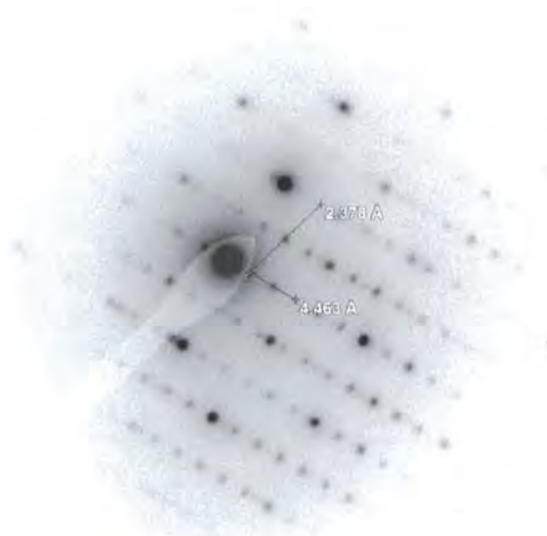
StS-15 Full Quant_001
Anthophyllite
GO-B2
Microscopist: LWP

2 μ m
HV=100kV
Direct Mag: 4000 x
J3 Resources, Inc.



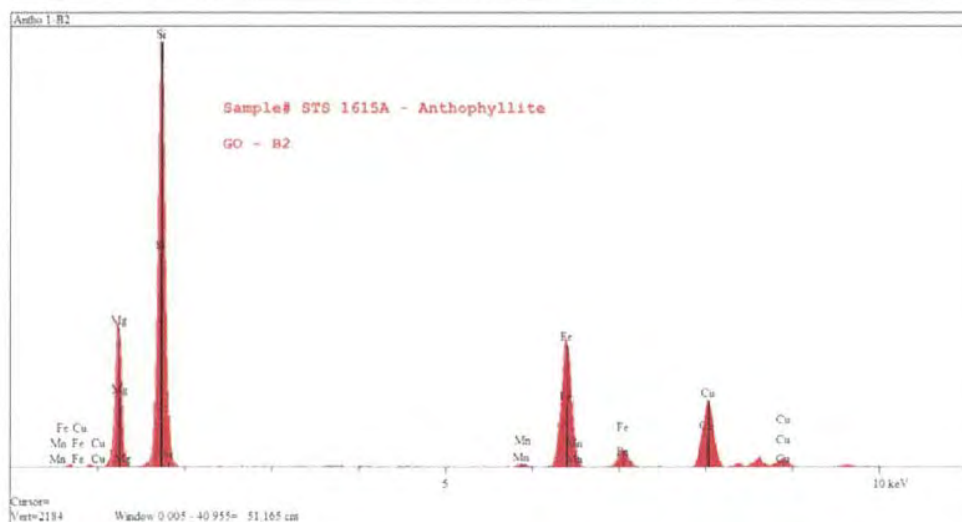
Sample 20180061-31F

Structure 1 – Diffraction Pattern and EDS



STS-15 Full Quant_002
Anthophyllite - SAED - ZA [1 0 1]
GO-B2
Microscopist: LWP

0.2 (1/Å)
HV=100kV
Cam Len: 0.8000 m
J3 Resources, Inc.

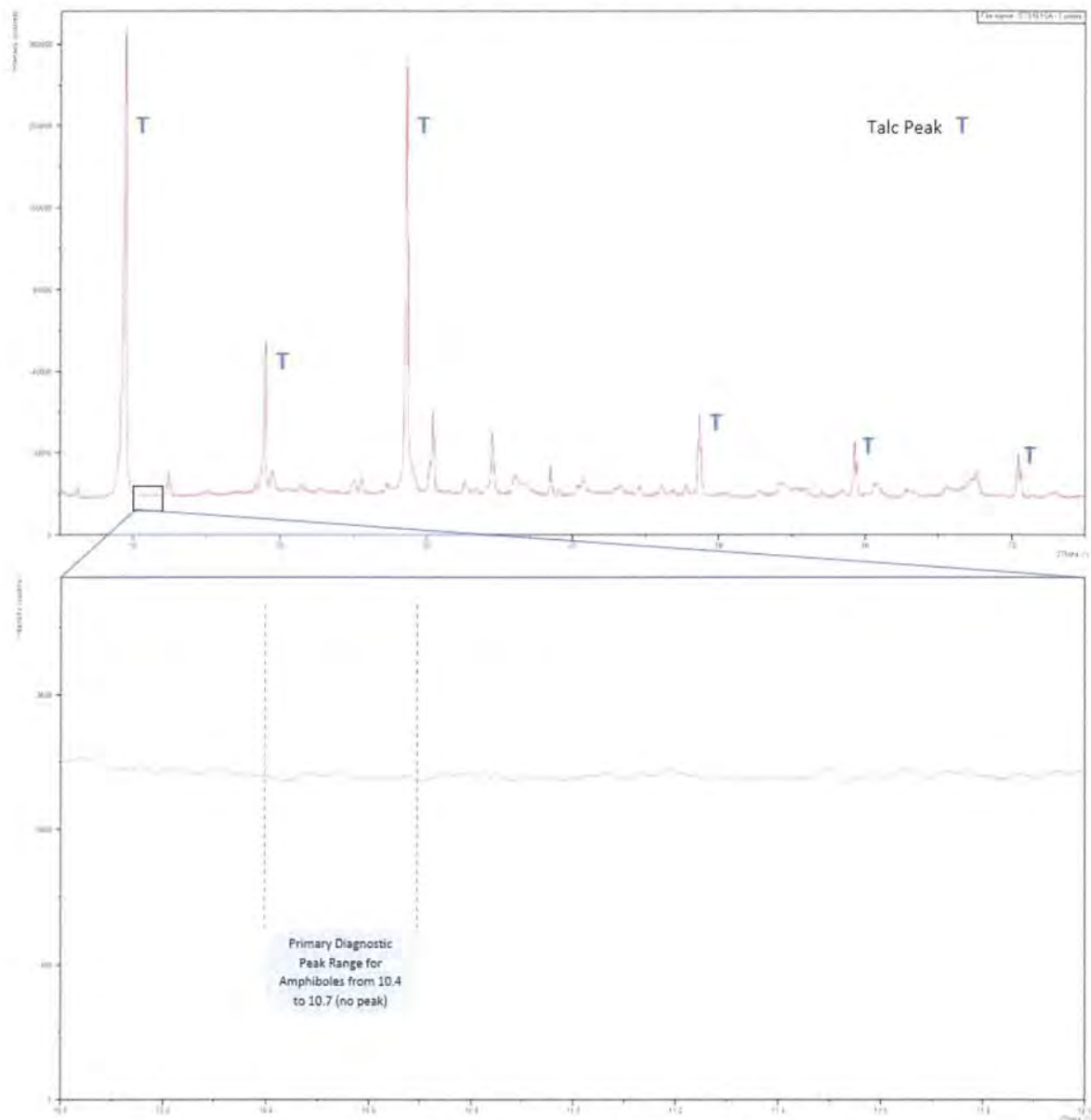




Determination of Asbestos in Talc by XRD

ISO 22262-3:2016

Sample 20180061-31F



No Amphibole Peak Present

Section 14

**MAS, LLC
PLM ANALYSIS**

Proj#-Spl# M69680 - 016BL **Analyst** Paul Hess **Date** 12/11/2018
ClientName J3 Resources **ClientSpl** 20180061-31G
Location _____
Type_Mat Shower to Shower Talc
Gross Glittering debris on slide **% of Sample** 100
Visual _____

OPTICAL DATA FOR ASBESTOS IDENTIFICATION

Morphology	straight		
Pleochroism	none		
Refract Index	1.633/1.619		
Sign^	positive		
Extinction	oblique		
Birefringence	medium		
Melt	no		
Fiber Name	Actinolite/Tremolite		

ASBESTOS MINERALS

EST. VOL. %

Chrysotile.....
Amosite.....
Crocidolite.....
Tremolite/Actinolite..... 0.7
Anthophyllite.....

OTHER FIBROUS COMPONENTS

Talc -B/Y DS in 1.55 ***

NON FIBROUS COMPONENTS

_____ X
Opagues _____
Talc _____ X
Mineral grains _____ X

Binder Description _____

Comments Actinolite/Tremolite asbestos observed. *** Moderate amount of fibrous Talc
observed. X = Materials detected.

The method detection limit is 1% unless otherwise stated.

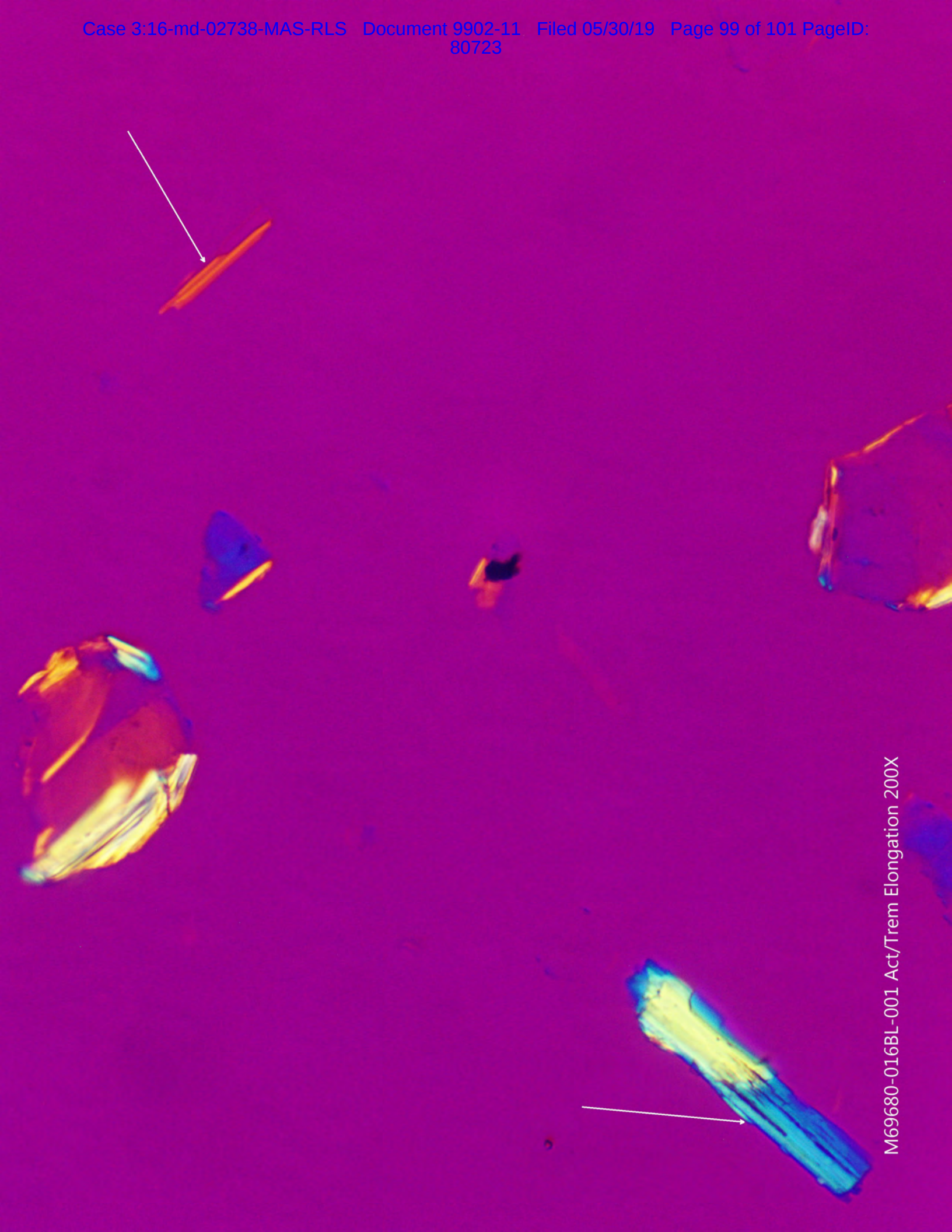


Dispersion Six Degrees off Parallel

39.4um

Perpendicular Dispersion

80.2um



M69680-016BL-001 Act/Trem Elongation 200X



M69680-016BL-001 Act/Trem Crossed Polars

